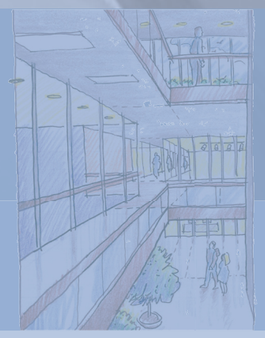
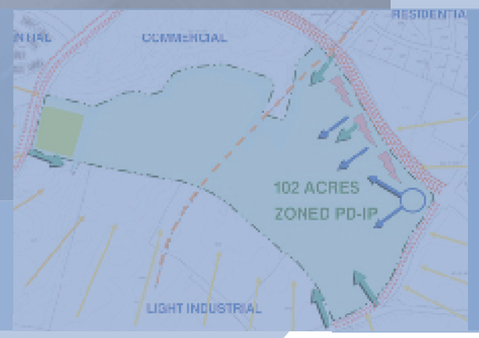
# Monroe Advanced Technology Academy

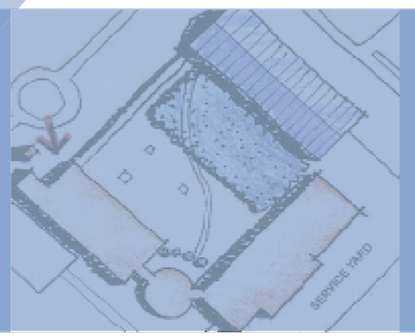
Loudoun County Public Schools
I BYDE MY TIME
Established in 1870

## Conceptual Design
## Volume 1

Planning and Architecture
August 4, 2006






Hayes Large Architects, LLP

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**Monroe Advanced Technology Academy**


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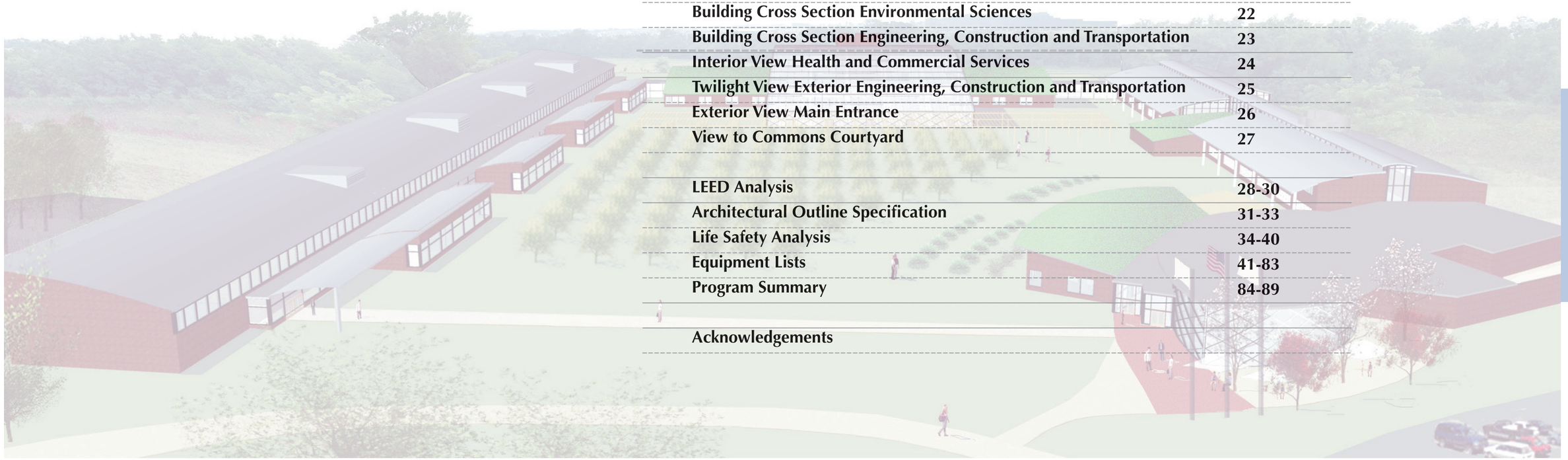


# INTRODUCTION

Today's business and industry is dependent on fast communications, rapid decision making, and the intelligent social skills needed to tackle the challenges facing virtually every economic, political, or social system in our world today. Loudoun County Public Schools have risen to these challenges and are propelling their system toward national leadership in secondary level career and technology education.

## 1. Task Force Goal

The goal of the Monroe Technology Center task force study that began in 2001 was to propose program and facility recommendations to prepare and educate students to meet the challenges in an ever-changing, global economic environment.

The reality of the 21st century is that LCPS must prepare students to compete in an ever-changing economic environment, enable them with the skills to meet global challenges and provide them with the resources to continue on a path of lifelong learning.

## 2. Program and Design Objectives

**A.** Many ideas flowed from the efforts of the task force and the interaction of the task force and designers to set the stage for the project.

- The overall facility environment and appearance objective will be to create a professional real-world business atmosphere within the Monroe Advanced Technology Academy.

- Classroom and Lab areas will simulate actual business environments within specific occupational areas utilizing new state-of-the-art technology and communications.

- The programs are planned to foster key business and industry partners that are essential to the growth and continued development of exemplary programs housed within this academy.

- Every Academy program is planned to offer a clear pathway into a postsecondary program leading to a credential, apprenticeship, associate, baccalaureate, or graduate degree.

- Provision is made for community partnership within the utilization and programming of the Academy facility.

- Locate the new Academy within the county's demographic center for optimal access by students and the community as a whole. The Facility is intended to be an attractive destination for students and the community at large.

- Biophilic relationships are intentionally incorporated within the building design concept to act in synergy with the natural surroundings on the proposed site. The indoor/outdoor relationships are interwoven to allow ready visual and physical access to the outside as well as to introduce plant and floral life within indoor spaces to enhance the overall environment within the work and learning places. These relationships will enhance the natural tendency towards an affinity of human nature toward the natural world.

- The development of this advanced technology academy will complement relationships with local business and industry, education, and the community

**B.** Based on Loudoun County's economic strategy updated in FY 05, the plan calls for the creation of "an innovative, globally competitive economy known for its business environment, exceptional quality of place and strong sense of community."

- The new Monroe Advanced Technology Academy embraces the same ideals and shares a common vision for workforce training and education in response to the employment needs of local, regional, state, and national workplace demands.

Loudoun County's Annual Demographic and Economic Trends show that 56% of the population is between the ages of 25 to 64; Loudoun has a young and abundant workforce.

- This Academy site will serve to educate and prepare secondary and post-secondary youth as well as the adult community by offering continuing education and training opportunities on site.

The following list of major employers identified in the Loudoun County Annual Demographic and Economic Trends would be close neighbors to the new Monroe Advanced Technology Academy:

- America Online, Inc., INOVA Loudoun Hospital Center, United Airlines, Inc., Verizon Business, Orbital Sciences, Neustar, Inc., Rockwell Collins Simulation, and Telos Corporation.
- Highlighted areas have established partnerships with Loudoun County Public Schools.
- Other key industry partners with Loudoun County Public Schools include: The Claude Moore Foundation, Howard Hughes Medical Institute, Colorcraft of Virginia, Inc., General Motors, Washington Area Automotive Dealerships Association (WANADA), Metropolitan Washington Airports Authority, Luck Stone, MC Dean, Greenvest, Wegman's, Lansdowne Resort and Conference Center, Marriott, TW Perry, Timmons Engineering, Hayes Large Architects, TRIAD Engineering, Dulles Town Center, Prototype Productions, Lockheed Martin, Toll Brothers, Brambleton Development Corporation, and a large number of locally owned small businesses.
- Key post-secondary educational partners with Loudoun County Public Schools include: George Mason University, The George Washington University, Marymount University, Northern Virginia Community College, Old Dominion University, Shenandoah University,and Strayer College.

These partners will allow for the Monroe Advanced Technology Academy to:

• Cultivate business partnerships and internship opportunities for students.

• Share this state-of-the-art facility by providing community-based education opportunities after regular school hours.

• Promote opportunities to partner with higher education so that students may earn additional college-level credit.

**C.** Additional information from the Loudoun County Monthly Economic Indicators for June 2006 show that Monroe Advanced Technology Academy program areas are clearly in line with local employment needs, trends, and growth trends. The following Loudoun industries are experiencing growth: Accommodations and Food Services, Agriculture, Construction, Healthcare and Social Assistance, Manufacturing, and Professional & Technical Services.

This academy campus will become the destination for innovation, technology, education, and training within Loudoun County. A place for "Launching Careers and Exploring Potential."

Graduates of the Monroe Advanced Technology Academy will be highly qualified and trained to enter directly into post-secondary employment or advanced educational degree programs.

The academy's location on the study area property will help to solidify the concept of this academy as a destination for high-technology education.

## 3. Educational needs for Loudoun County and focus on future needs:

- A task force was assembled in October 2001 to study the Monroe Technology Center facility and instructional programs to determine the needs for future programmatic and facility needs.
- The task force was comprised of business/community representatives, Monroe Technology Center advisory committee members, parents, students, LCPS instructional and central office staff, and the Monroe Technology Center faculty.
- The task force presented a plan in 2002 that would identify program and facility needs to focus on future occupational growth areas and trends. The task force studied a wide variety of occupational forecasts and trends for the 21st century workplace.

Highlights of the Task Force Report:

The face of today's workplace had changed drastically from the workplace of ten to twenty years ago. We now report to multiple locations, have experienced changes within the organization of the workplace, telecommute, and have increased in cultural diversity. The workplace has an increased focus and emphasis on team problem solving from a variety of locations, increased technical support needs, employee and team problem solving skills, and an ever-increasing flexibility.

To success in today's workforce, it is not enough anymore to simply have the technical and technological skills. Employees must possess an ability to see the "big picture." We must work "smarter" instead of "harder." Employees need to know "how to learn;" possess interpersonal and communication skills; have a good command of written, oral, and listening skills; possess a strong work ethic; demonstrate leadership and initiative, and have the ability to problem solve at many levels. These high-tech jobs and skills of the 21st century virtually mandate that schools drastically change their practices on what is taught, how it is taught, and for whom the skills are to be taught.

Programs and facilities to be developed at the new Monroe Advanced Technology Academy would embrace the work of the task force. The following is a list of the existing and future program areas of study to be offered at the Monroe Advanced Technology Academy:

Health & Human Services
Administration of Justice
Cosmetology I and II
*Emergency Medical Technician /Firefighter
Beginning Fall 2006
*Healthcare Technician
Licensed Practical Nurse I and II

Hospitality/Tourism
Culinary Arts I and II
*Hospitality and Tourism Services

Information Technology
Computer Network Administration/
CISCO1/2(first year course) and
Advanced Network Administration/
CISCO3/ 4(second year course)
Computer Systems Technology/A+ and
IC3 Certification
*Information Technology and Security

Engineering/Construction
Building Construction I and II
Heating, Ventilation, and Air Conditioning I and II
Masonry/Advanced Masonry
Computer Integrated Engineering and Design
Welding I/ Welding II Transportation
Auto Servicing Technology I and II
Collision Repair Technology I and II

Communications
Graphic Communications I and II
Television Production I and II
Computer & Digital Animation I and II

Environmental
Greenhouse/Floral Design
Nursery/Landscape

* Indicates New Program Areas

## 4. Planning and Design for the Monroe Advanced Technology Academy:

Hayes Large Architects was commissioned by LCPS in the spring of 2005 to perform a space study for the existing Monroe Technology Center in Leesburg. The study involved developing a space program based on the Task Force Study and meetings with LCPS Administration and Faculty to document the total architectural space requirements to support existing and new programs. The study concluded that total space requirements far exceeded the capacity of the existing Monroe CTC and site.

In June of 2006, Hayes Large Architects was asked to prepare a document to support the incorporation of the proposed program, with additional opportunity for growth as part of a PPEA initiative for the Loudoun County property located at the intersection of Farmwell and Waxpool Roads in Ashburn. The document is intended to provide sufficient design to test the constraints of available site as well as to illustrate LCPS requirements for a building to reflect their standards and support the academic program.

The planning and design process has resulted in a Design Concept intended to articulate for a potential PPEA developer sufficient background as well as sufficient leeway to implement further design and construction for the proposed Monroe Advanced Technology Academy. Many ideas, qualities and characteristics emerged at the kickoff meeting between LCPS and Hayes Large Architects that set the character for the Design Concept. Some of the descriptors that flowed from that meeting are as follows:

*21st Century workplace requirements and demands

*Biophillic synergy between the school and the natural setting of the school site

*MATA as a Destination

*Educational experiences and opportunities for students and the entire community. The building itself as an educational tool.

*Employ Monroe's new tag line "launching careers and exploring potential"

*The Academy as a Campus

*Innovation in program and facility

*Employ the latest new Technologies

*Advance the State-of-the-Art

*Provide Flexible Space

*Capitalize on the interrelationship of the Academy Program and Academics

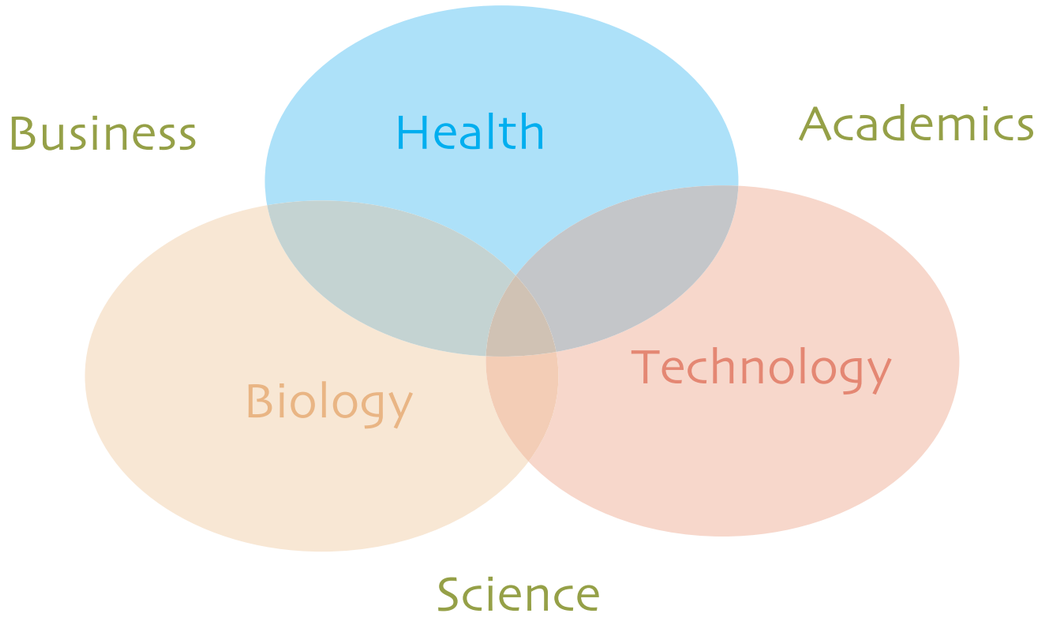
Economic Development Committee Recommendation on the Urban Land Institute Report

On January 17, 2006 the Loudoun County Board of Supervisors agreed to move forward on the recommendations of the Urban Land Institute, who had studied the opportunities for this site in 2005. Following are the recommendations that apply to the use of the site for the proposed Monroe Advanced Technology Academy:

- On the recommendation for an educational use site calling for a technology academy of 400-450,000 square feet, the Board directed a flexible approach to the type of educational facilities to be considered and that the approach to the term "technology" be broadly defined.

Many other aspects of the ULI study have been embraced by LCPS and the design team so as to employ as many of its recommended features as possible. Some of the features incorporated into the program and design are as follows:

- Provide a facility dedicated to education in sciences and technology, compatible with and supportive of the character of biotech and technology development in Loudoun County.
- The Academy could integrate with businesses and industries located both on and off the site.
- Provide an educational facility that fulfills the spirit of "academy" and "campus".
- House the facility in one, two and three story buildings.
- Solidify the concept of the academy as a destination.
- Respect the topography and storm water run-off patterns.
- Make the site appealing to pedestrians and foot traffic.
- Locate the facility in the zone proposed for Education use.
- Pursue the Janelia theme of a sense of creativity and innovation. Design architecture that encourages interaction among people on the site as well as fostering interaction between the site and the rest of the world.
- Integrate the natural world and the built environment through trails, landscaping and the built environment.
- Embrace elements of the recommended design scenarios: "Campus", "Farmers' Market" and "Natural Capital".
- Implement sustainable building practices.



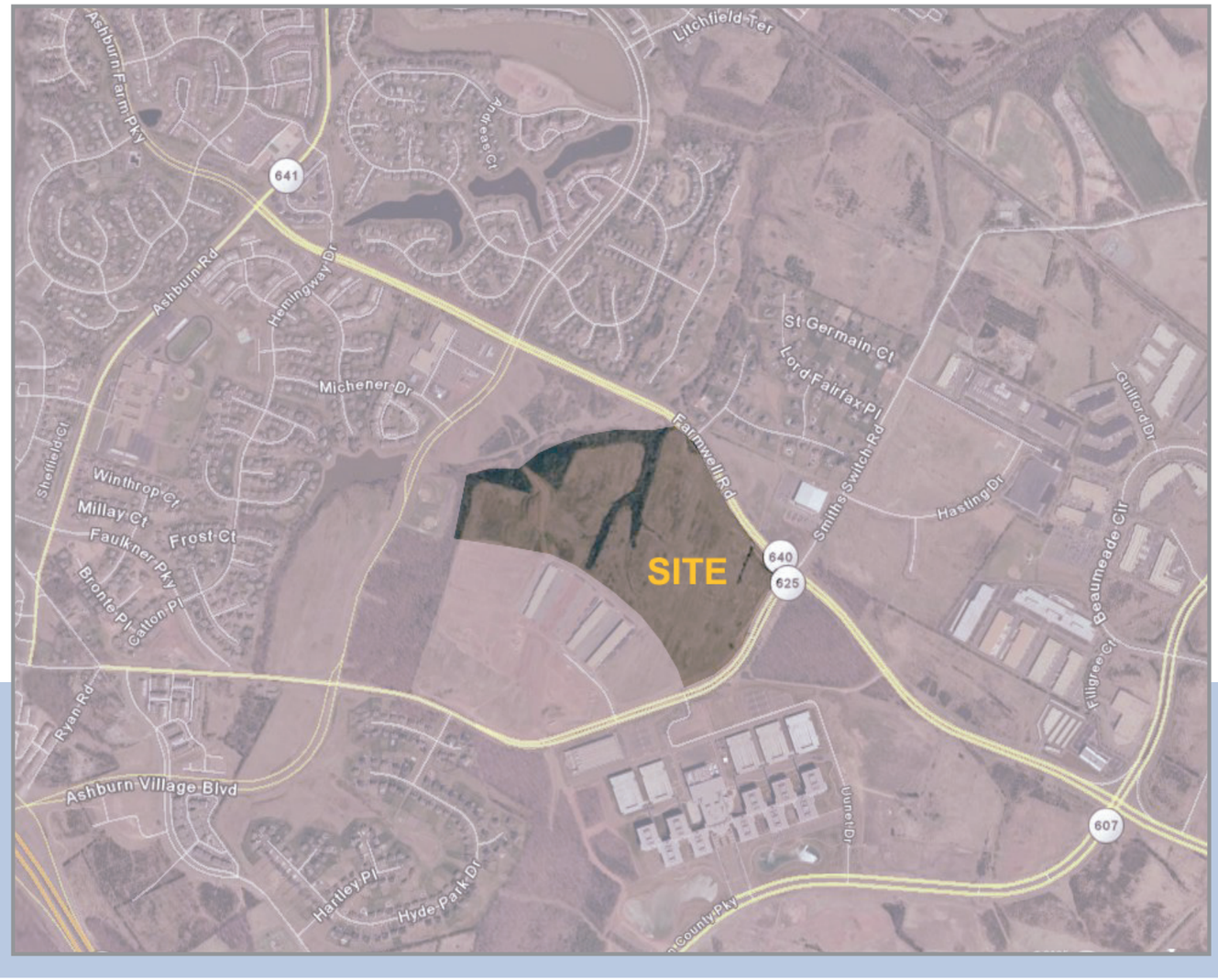

Hayes Large Architects has responded to the challenges set forth by the ULI study and embraced the principles of creative and sustainable design. The Concept Design laid out in this document exhibits the following qualities to support the LCPS program and guidance regarding the design:

- The buildings are organized in a campus arrangement, with four major buildings supporting “schools” within the program. Each building demonstrates its identity through the three academic and technology clusters contained. The common spaces are housed in the fourth building, which is the entry structure. The basic organization is a loose quadrangle, with a central park enlivened by outdoor academic programs or access to outdoor spaces that are integrated with indoor functions. Many of these indoor/outdoor spaces are designed to be an invitation to public use and access.

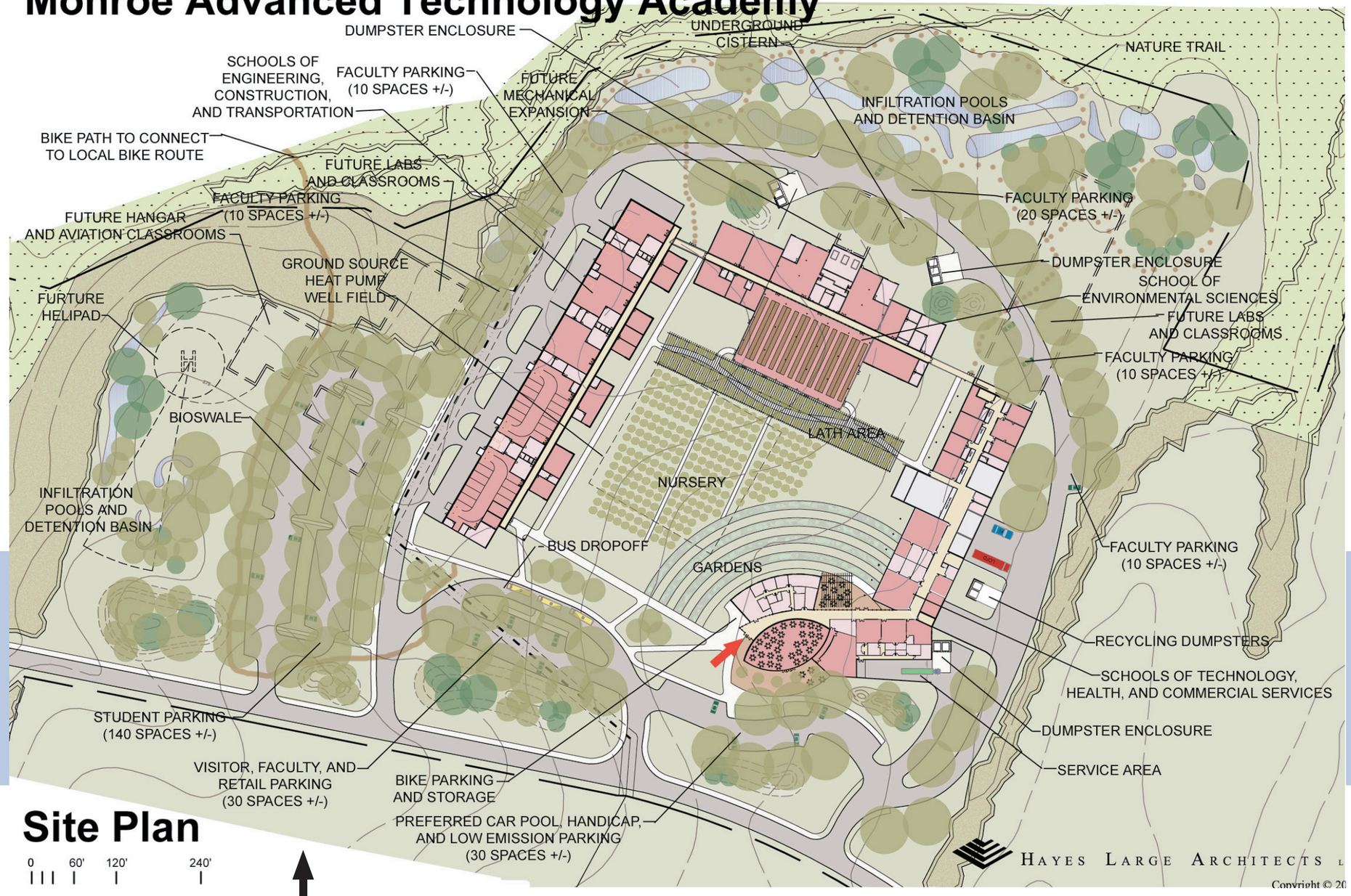
- The building is designed to be transparent. Learning is on view and display to visitors, faculty and for the students, to each other. Many opportunities are created within the facility for positive interaction among students, faculty administration, parents and visitors.

- The building is designed to be sustainable. The design objective was set at LEED Platinum at the commencement of the process, and has been checked regularly on a weekly basis. The scorecard, as of this deliverable, is at 56 points, well in to the Platinum level.

- The building and its program reside at the intersection of the leading industries driving the world and US economy: Healthcare, Biology and Technology. In a service driven economy consumers will pay a premium for higher end services which have impact from many fields: spas, clinics, organic farms and restaurants among them. The Monroe Advanced Technology Academy supports learning in these fields and provides an environment which opens young people to the best business practices and a search for excellence.


Litchfield Ter
Ashburn Farm Pky
641
Andrees Ct
Ashburn Rd
Hemingway Dr
Michener Dr
St Germain Ct
Lord Fairfax Pl
Fairmwell Rd
Smiths Switch Rd
Guilford Dr
Hasting Dr
Sheffield Ct
Winthrop Ct
Millay Ct
Frost Ct
Faulkner Pky
Bronte Pl
Catton Pl
SITE
640
625
Beaumeade Cir
Filigree Ct
Ryan Rd
Ashburn Village Blvd
Hartley Pl
Hyde Park Dr
Usher Dr
607

# Monroe Advanced Technology Academy




## Site Plan

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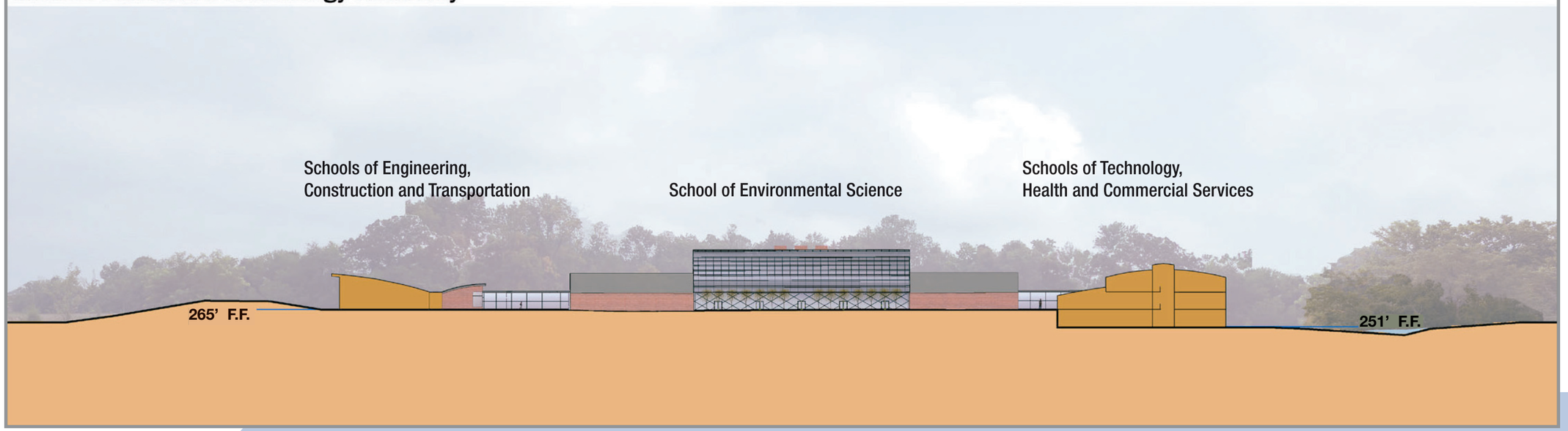
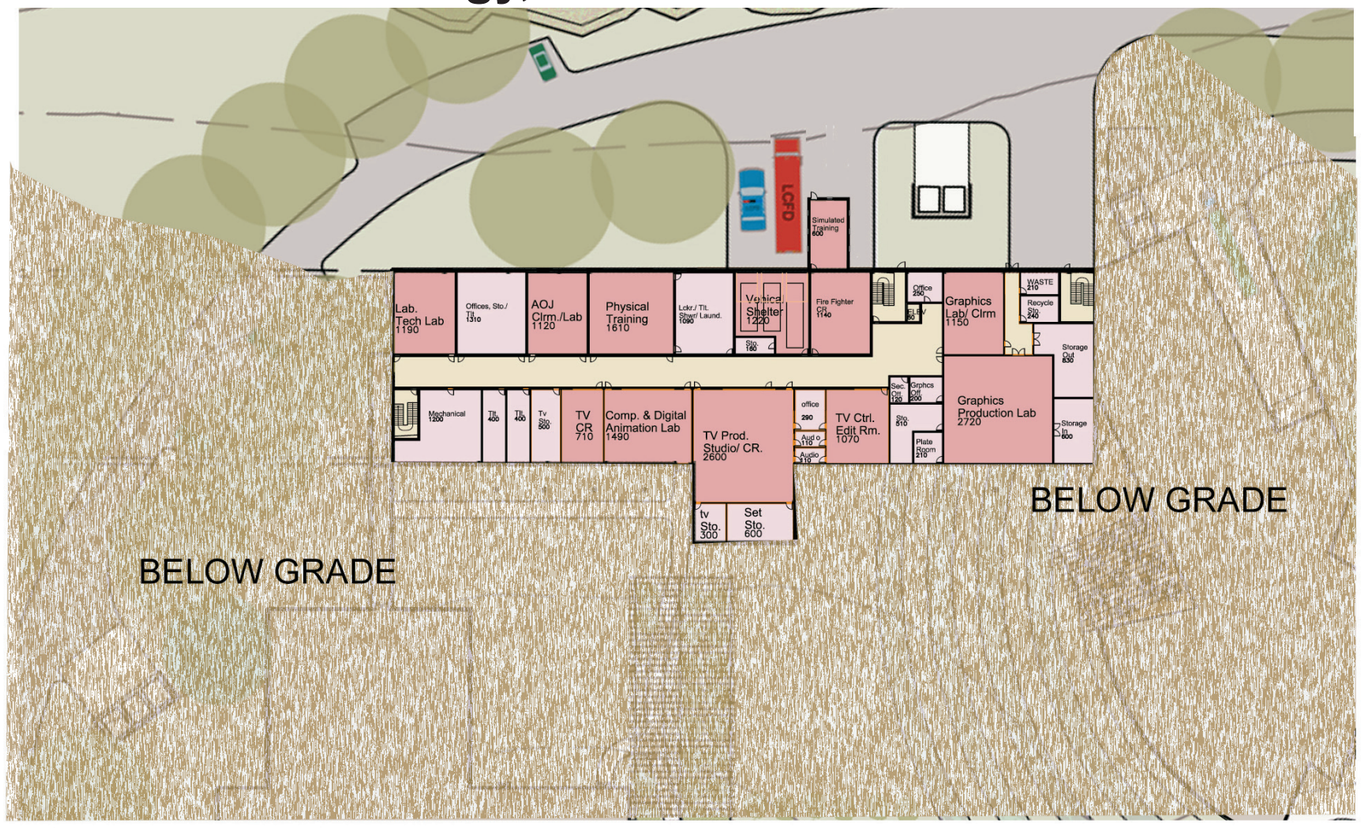
N

## Monroe Advanced Technology Academy



# Schools of Technology, Health and Commercial Services

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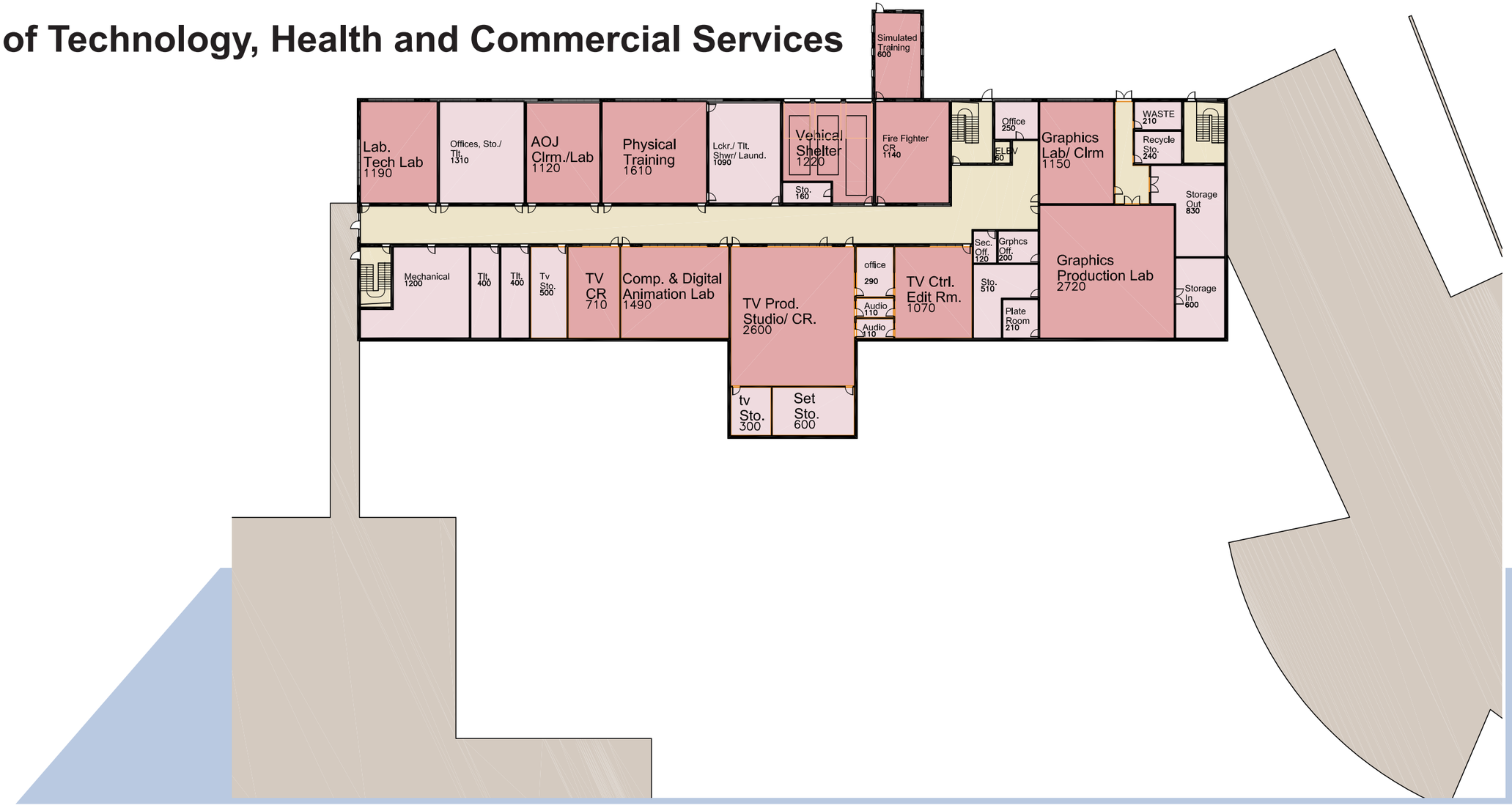
## Ground Floor

# Schools of Technology, Health and Commercial Services




## Ground Floor

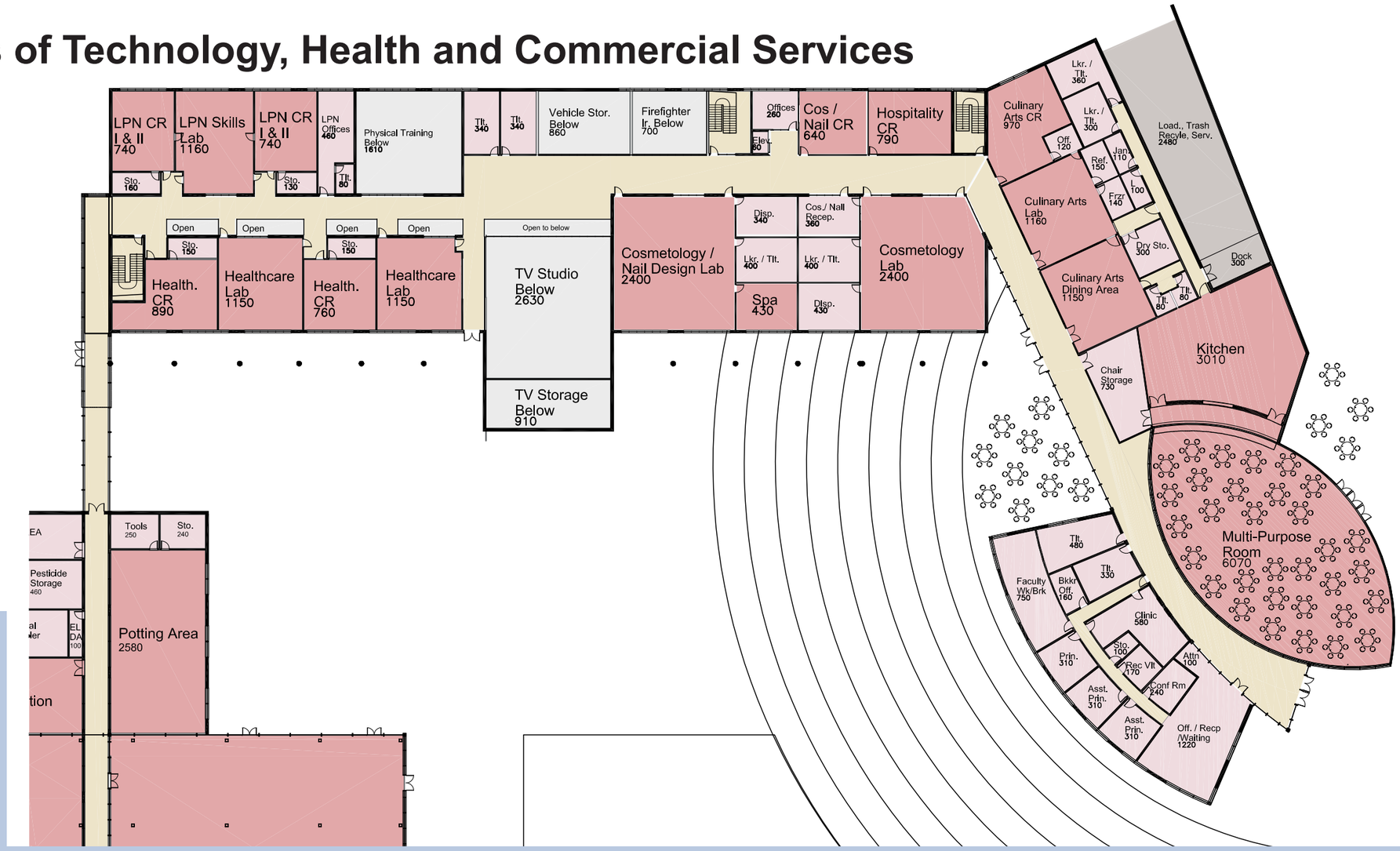
0 12' 25' 50'

# Schools of Technology, Health and Commercial Services


## First Floor

N

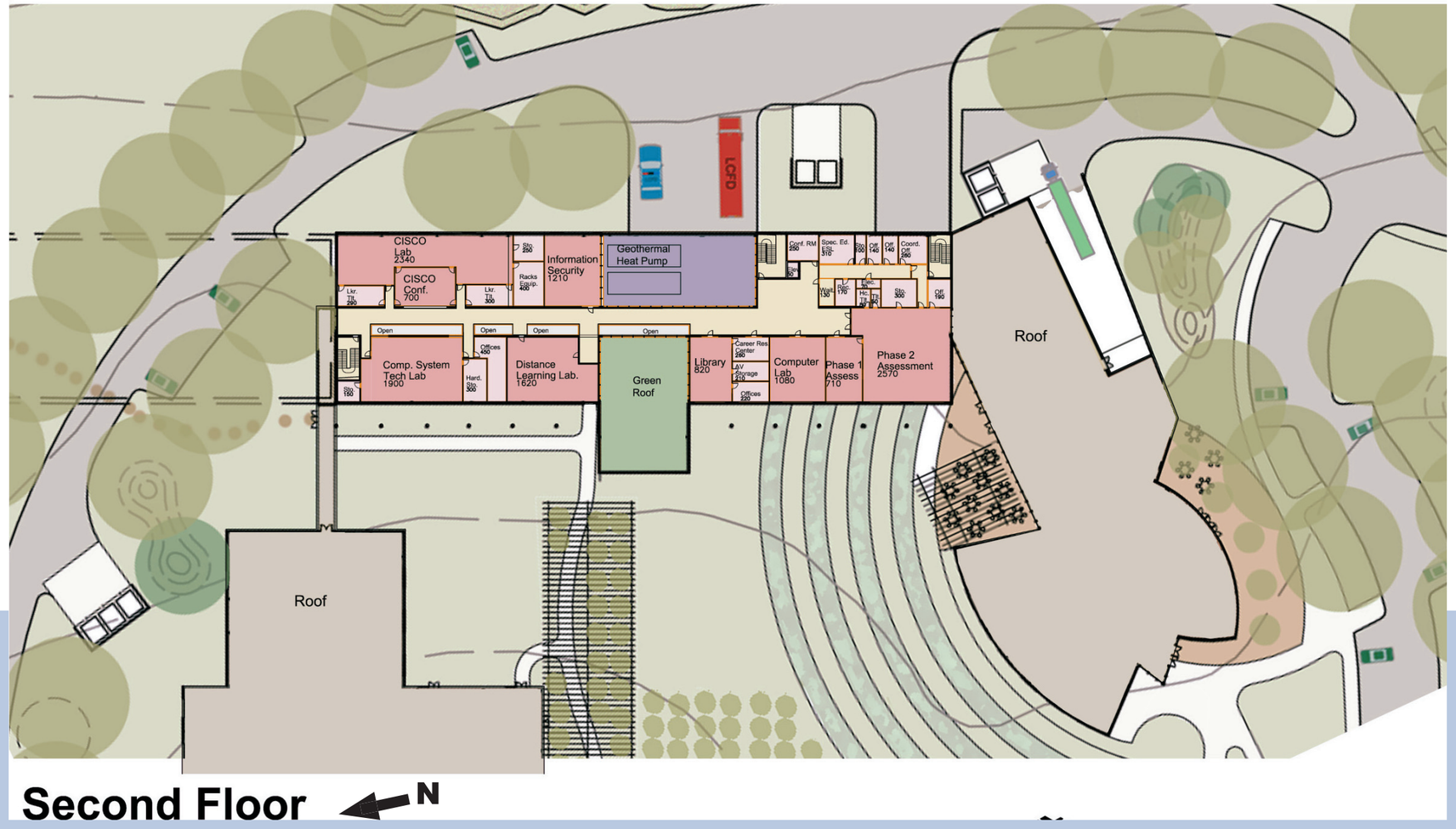
# Schools of Technology, Health and Commercial Services

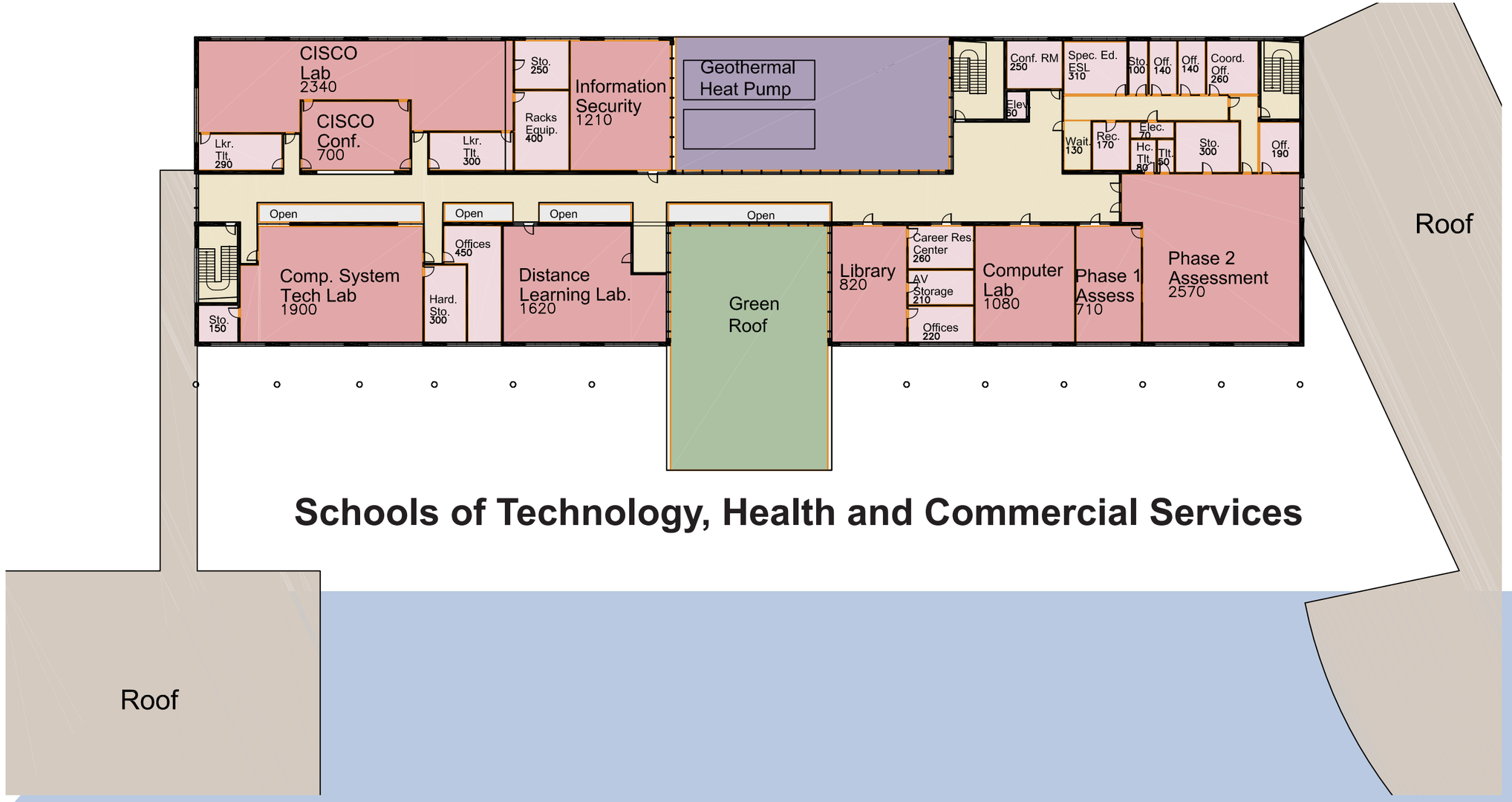



## First Floor

0 12' 25' 50'

# Schools of Technology, Health and Commercial Services






# Schools of Technology, Health and Commercial Services

## Second Floor

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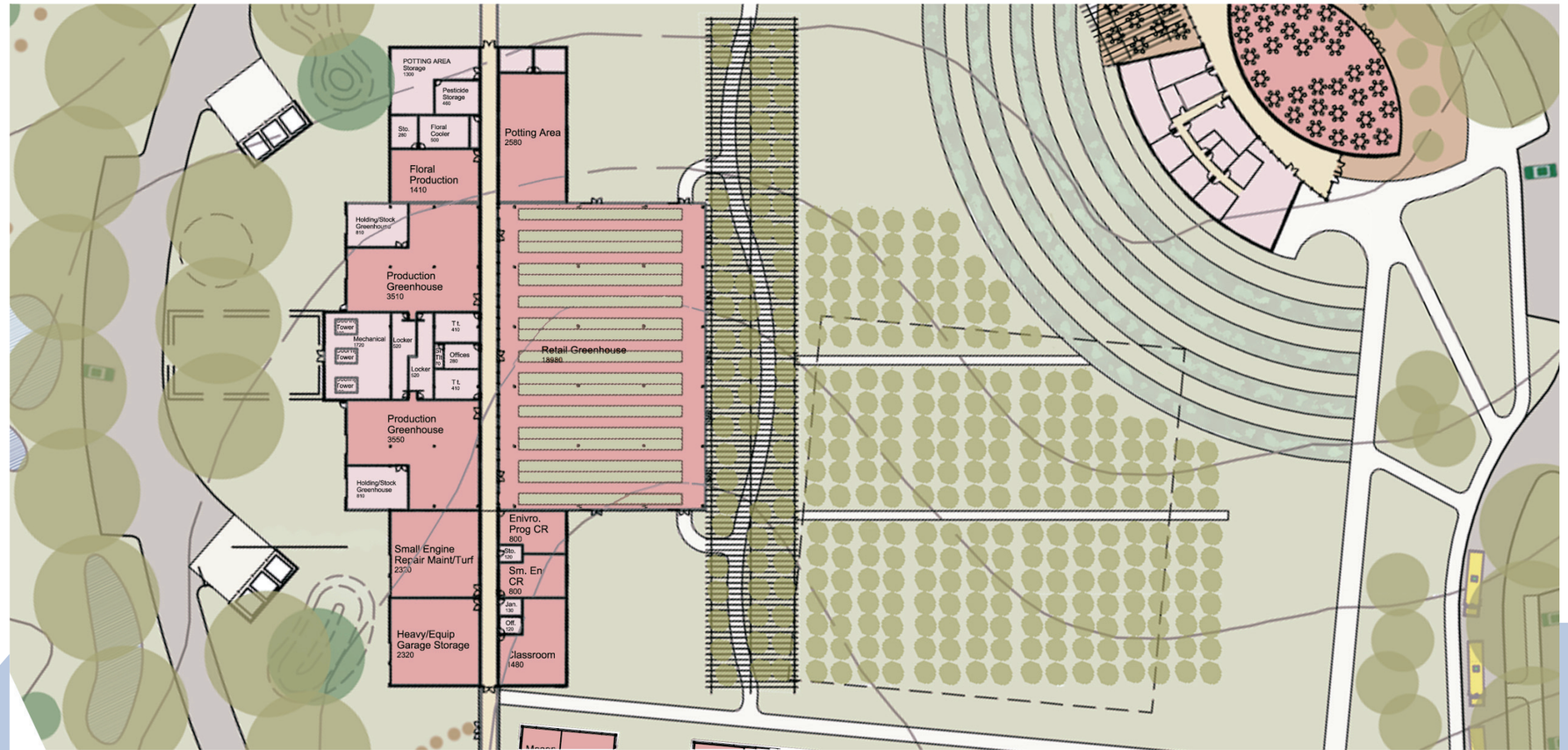
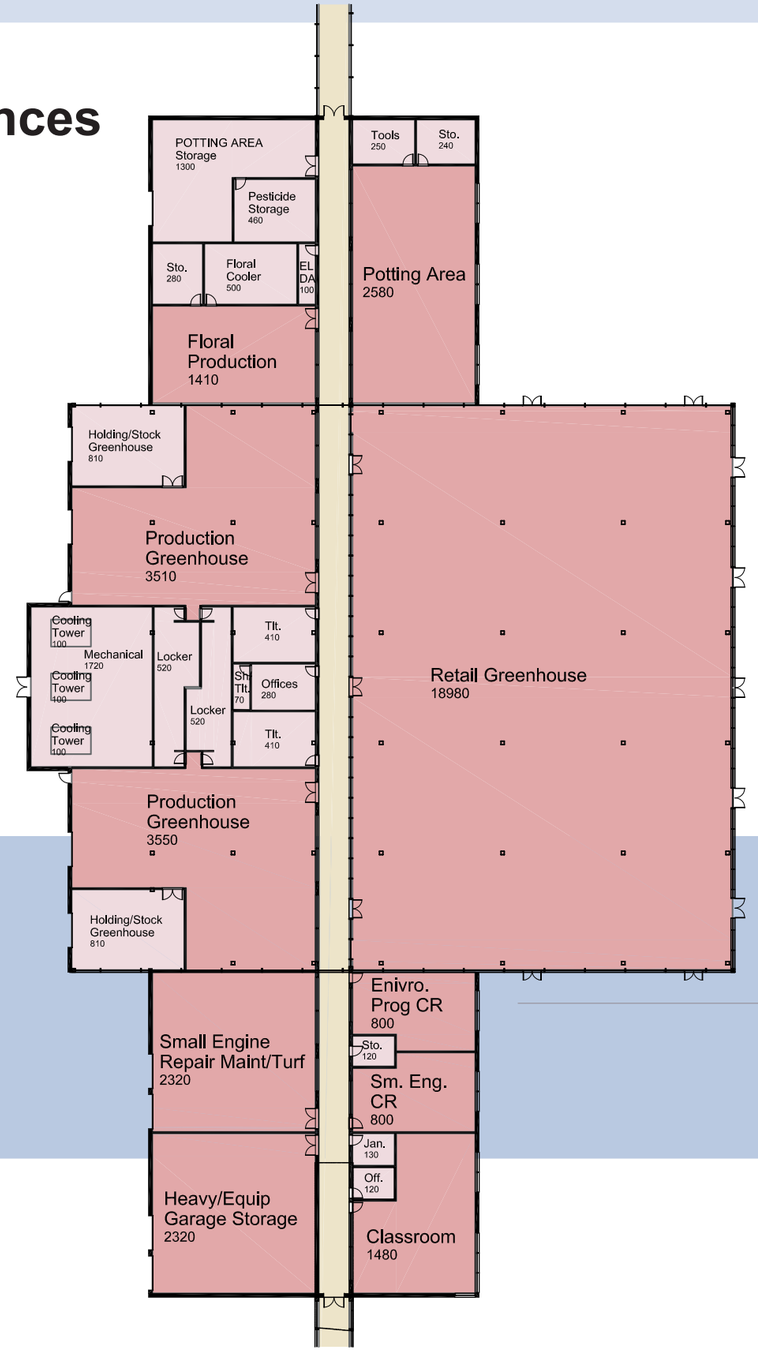
# School of Environmental Sciences




First Floor N

# School of Environmental Sciences




## First Floor

0 12' 25' 50'

# Schools of Engineering, Construction and Transportation

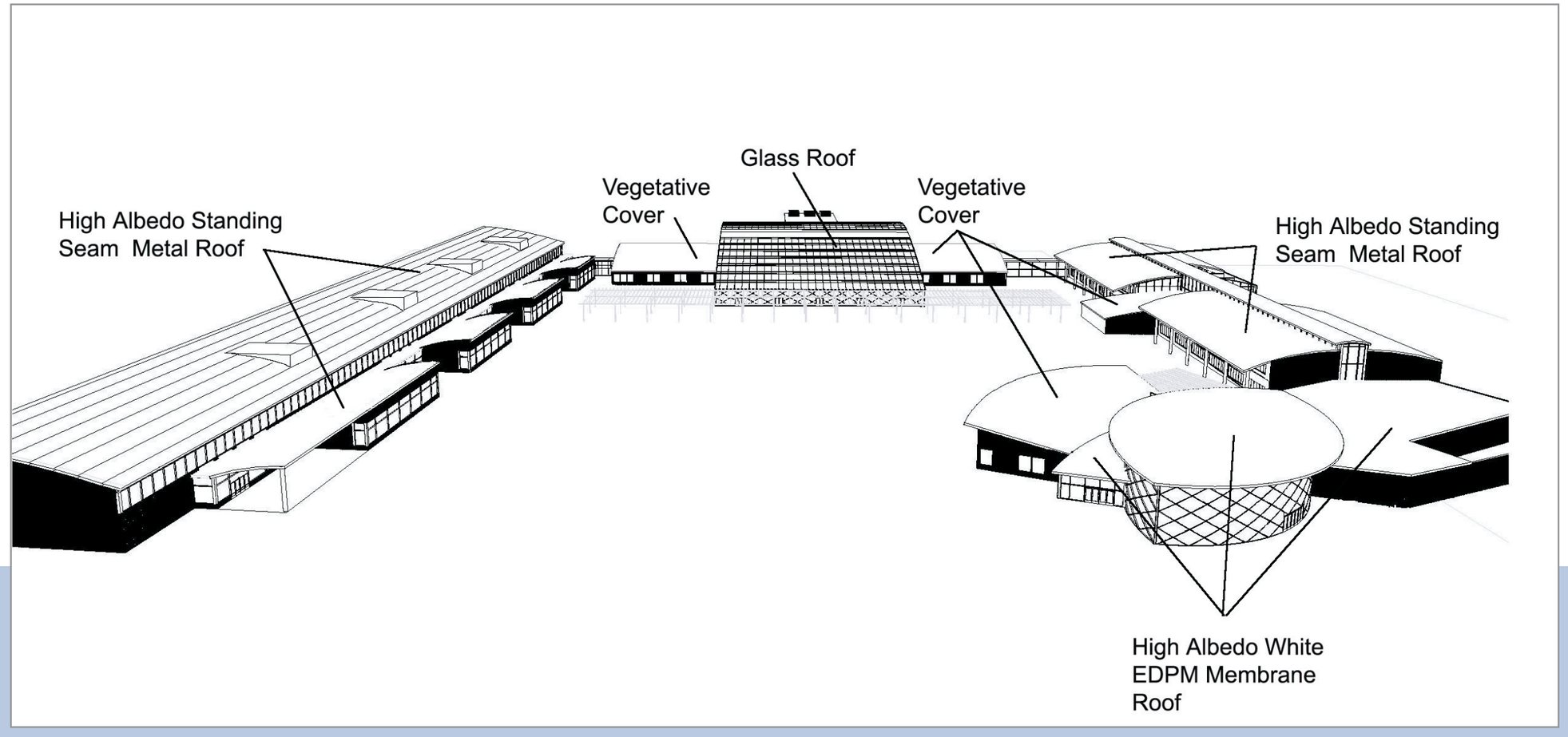

N

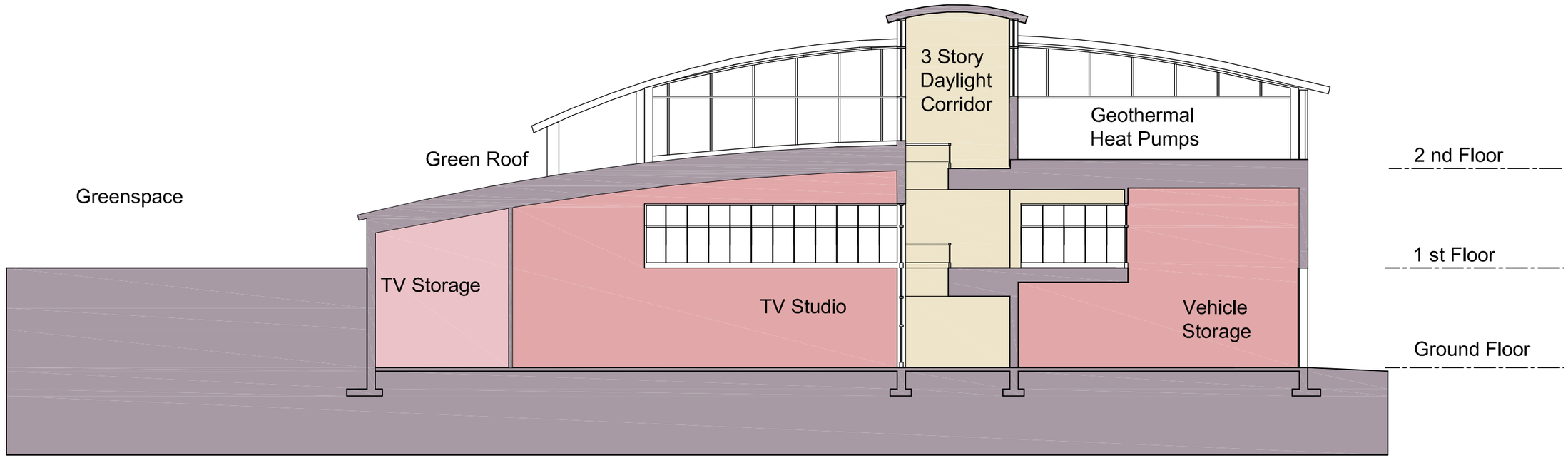
## First Floor

# Schools of Engineering, Construction and Transportation


## First Floor

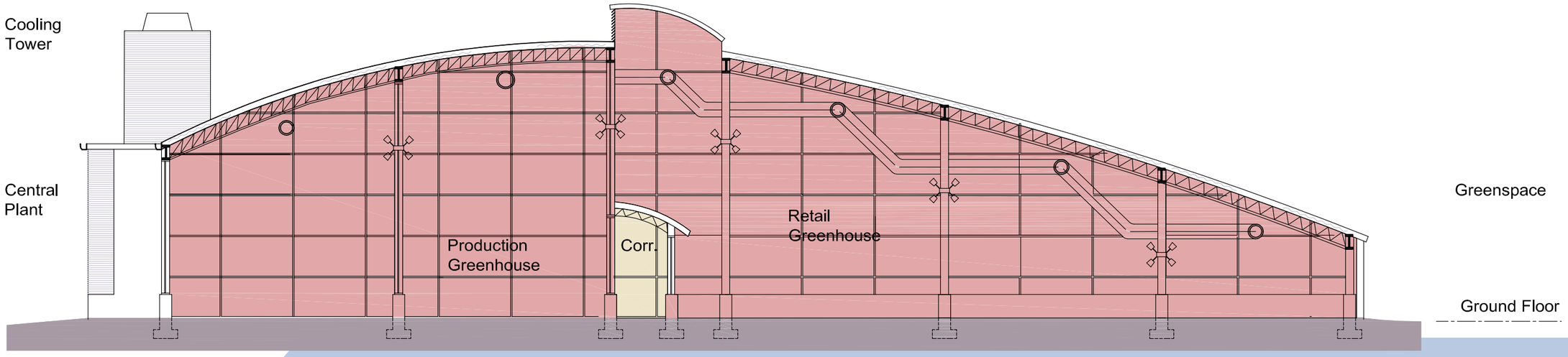
0 12' 25' 50'


High Albedo Standing
Seam Metal Roof
Vegetative
Cover
Glass Roof
Vegetative
Cover
High Albedo Standing
Seam Metal Roof
High Albedo White
EDPM Membrane
Roof




# East West Section at School of Technology, Health and Commerical Services

0 12' 25' 50'




# North South Section at School of Environmental Sciences

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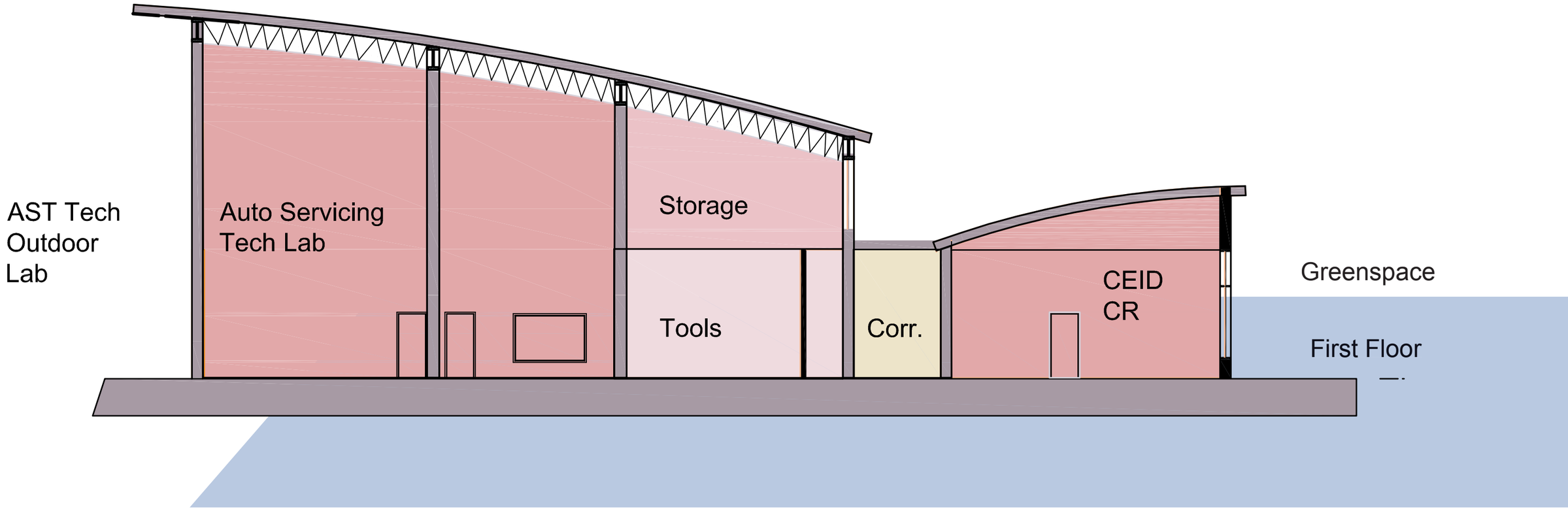
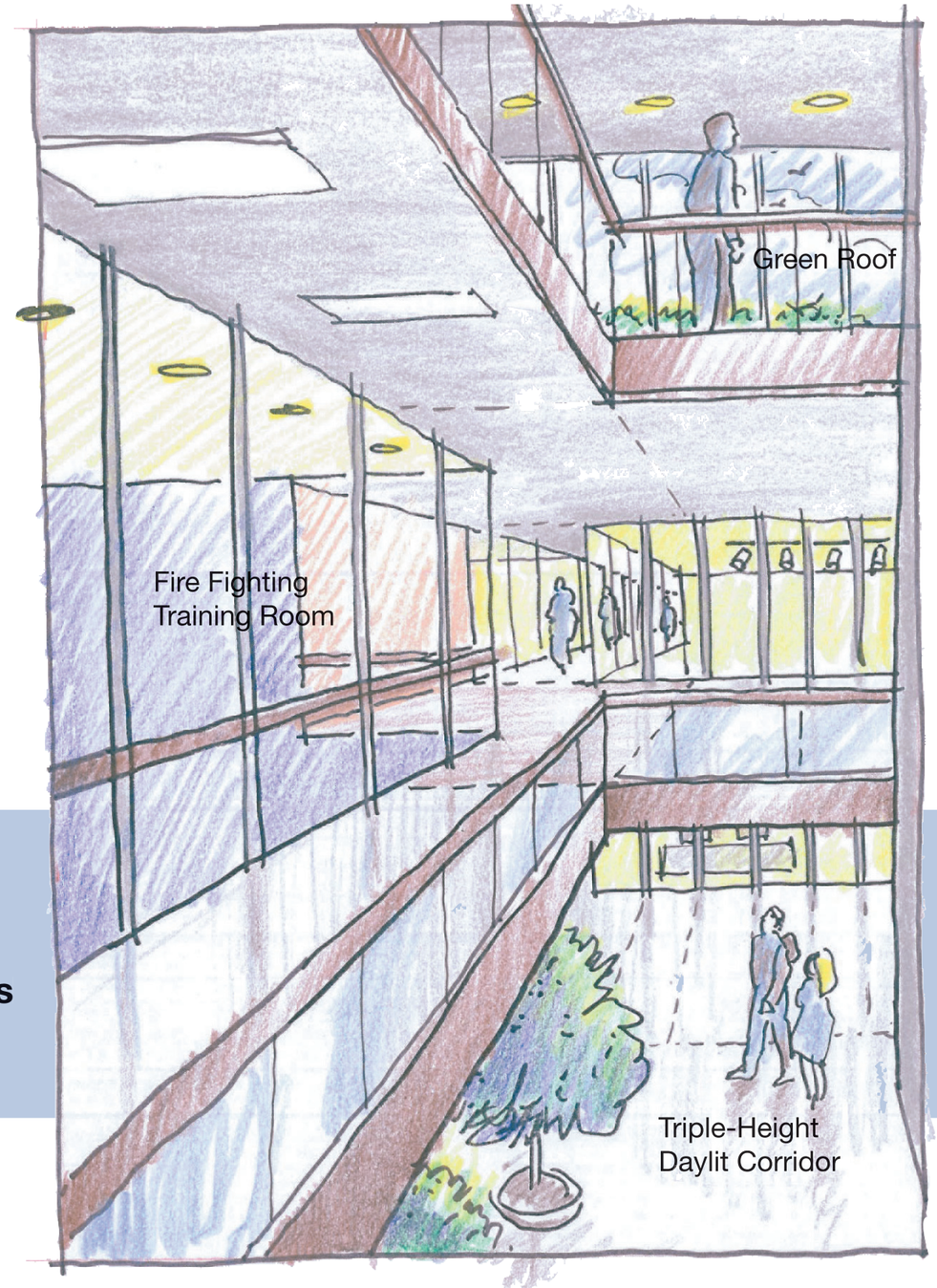
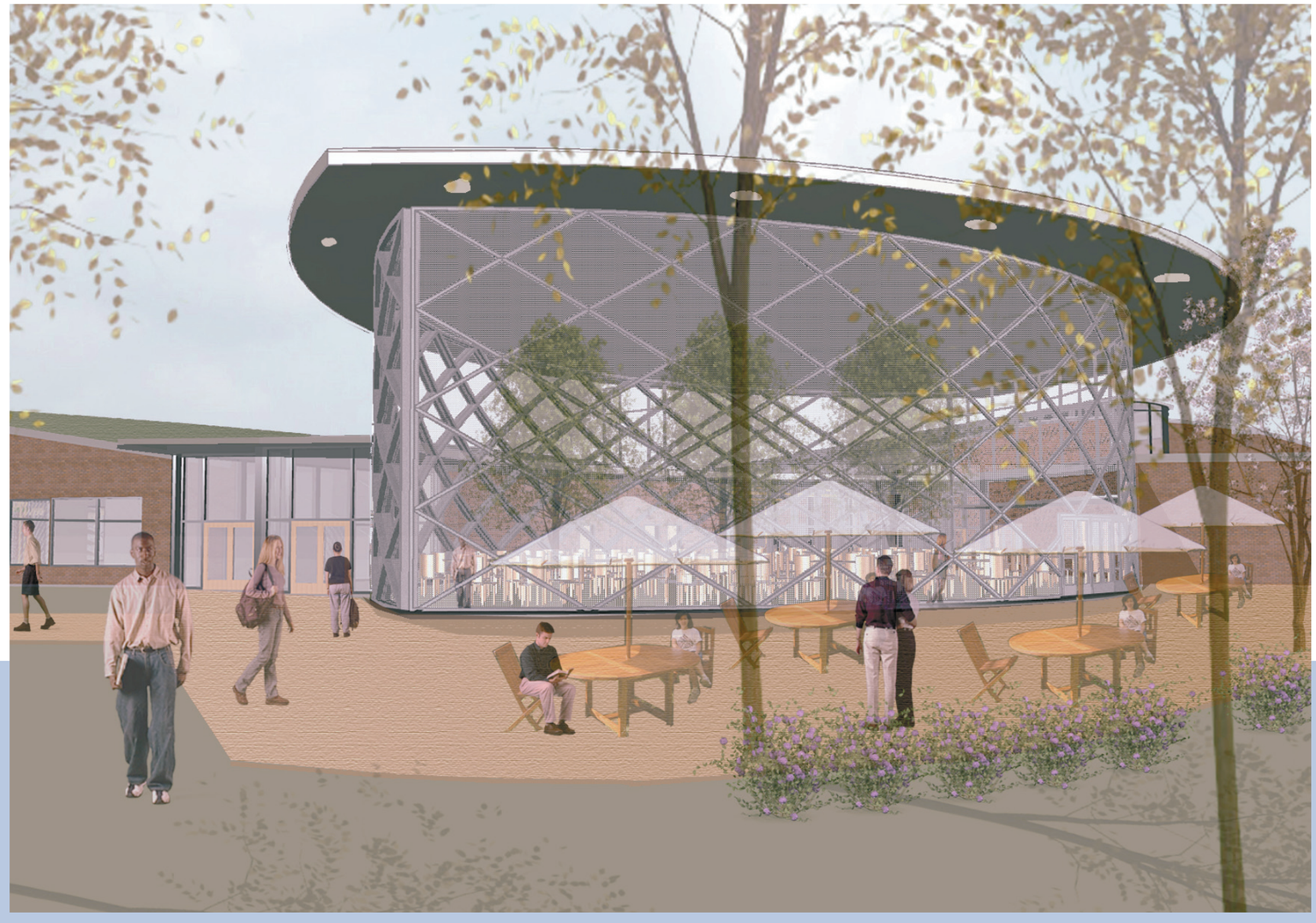



**Engineering, Construction and Transportation**

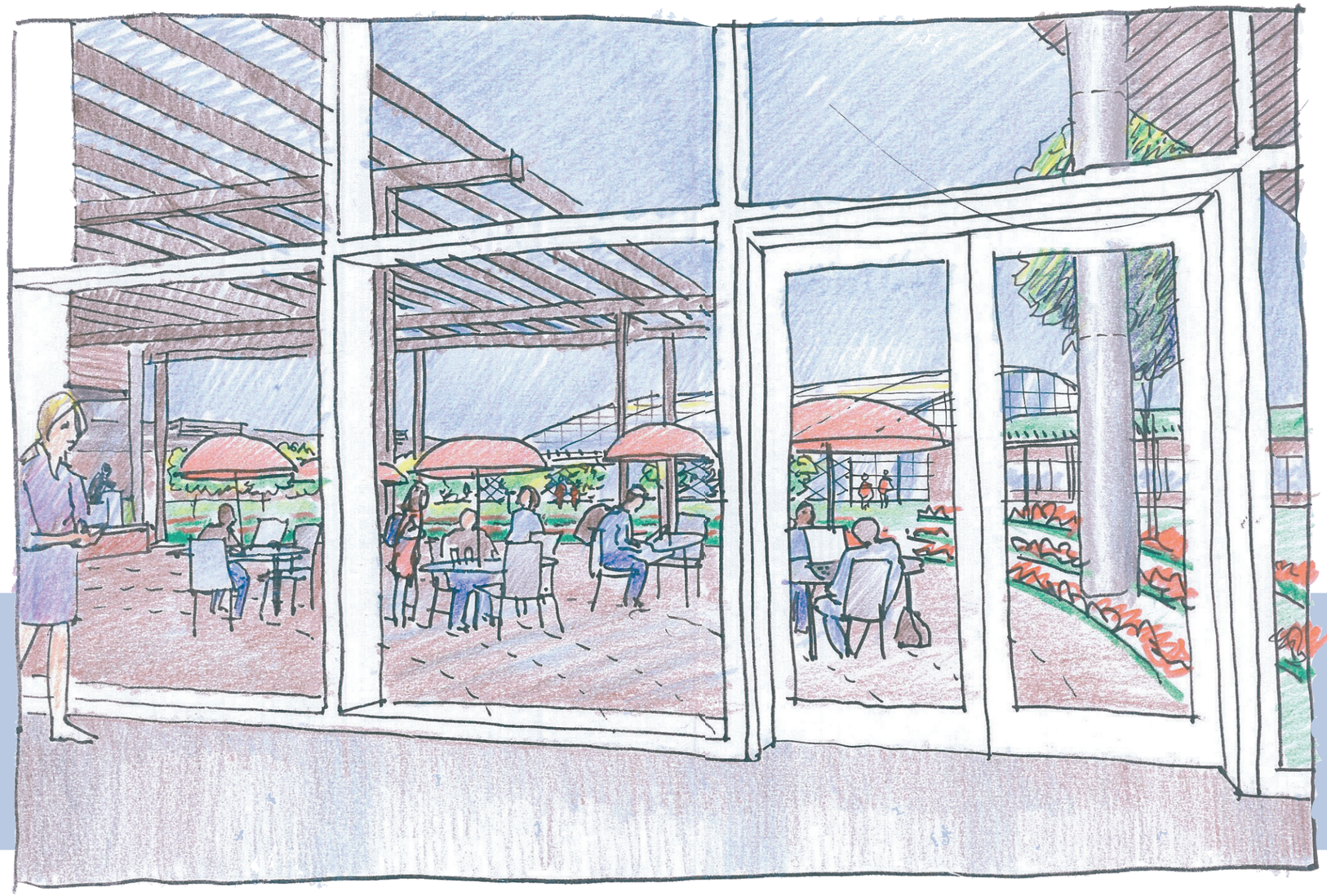



## School of Technology, Health and Commercial Services

## School of Engineering, Construction and Transportation



## Main Entrance



## Commons Court

Loudoun County will be educating the future leaders of our Country in State-of-The-Art Technologies. An integrated component of this education will be the School Building itself. Advancements in Technology and our Society are being reflected in our buildings and the processes by which we do business by using sustainable practices. Not only do sustainable buildings protect our environment and assure its health, they protect the health of the building occupants and help to create a more productive workforce. It is in this spirit that future generations will be educated.

Sustainable features will be showcased in the creation of this United States Green Building Council LEED Version 2.2 Platinum Certified Building. The following synopsis of Sustainable Site features, Water Efficiency, Energy & Atmosphere, Materials and Resources, Indoor Environmental Quality and Innovation and Design Process describes the strategies employed in the design of the school to achieve this Platinum rating. A LEED Checklist included with this synopsis tallies the points accumulated in pursuing this goal. 52 points must be achieved and are required and for Platinum Certification, this Synopsis tallies 56 points that are achieved with an additional 7 points that may be achieved as the design and construction of the Academy progresses.

## Sustainable Site Features (Achieve 1 Prerequisite, 10 points and 2 additional points possible):

During the design phase of the project, in an effort to reduce pollutants during the construction process, a plan to control erosion and sediment and airborne dust will be developed.

The center island of the parking lot is a bioswale designed to help reduce water runoff and pollutants. The retention ponds and infiltration ponds located on the site will be designed to reduce runoff and pollutants and create new wetlands. These new wetlands will be featured in the Academy's educational programs and contribute to an innovation in design credit.

Alternative Transportation means for building occupants are emphasized in the design of the project. Bicycle storage for bicycle commuters is included in the building design and these are located near lockers and changing facilities. Preferred parking has been provided for high-occupancy vehicles and also for low-emitting and fuel-efficient vehicles. The parking capacity of the site will not exceed that required by the Loudoun County Zoning Ordinance.

Site development has been limited and the amount of open space left on the site has been maximized. A plan to protect and restore any habitats will be implemented during the design phase of the project should surveys indicate they exist.

The heat island effect of the parking has been reduced by shading of all parking areas by tree cover. Paving materials with a high solar reflectance will be used in some areas. Roofs have been designed to reduce the heat island effect by using a combination of high-albedo materials that reflect solar heat and green (vegetated) roofs.

Light pollution from the building will be reduced by having emergency lighting turned off after hours. Lights inside the building will be directed back into the building instead of out on the site. Site lighting will be designed to be dark-sky compliant.

## Water Efficiency (Achieve 1 Prerequisite, and 5 points):

Water efficiency will be ensured by on-site water collection and storage in an underground cistern located on the north end of the site. This cistern will collect rainwater, and HVAC condensate and will be filtered for use in landscape irrigation. This collected water will be used for innovative waste water technologies by its use for flushing of all toilets and urinals, and irrigation for the greenhouses. This water collection and storage will fully replace the waste water system and will also achieve an Innovation in Design Credit. Native and adaptive landscaping will not require irrigation. Fixtures installed will support the water efficient design by using 0.5 gallon per flush urinals, 0.5 gallon per minute aerators where feasible, and 1.8 gallon per minute flow restrictors on showers.

## Energy and Atmosphere (Achieve 3 Prerequisites, 13 points and 2 additional points possible):

Prerequisites for Fundamental Building Commissioning, meeting minimum energy performance ASHRAE 90.1-2004 and managment will be achieved. In accordance with the mechanical design of the building, the ASHRAE standard for energy efficiency will be exceeded by 35% using the energy cost budget method. A high efficiency central heating and cooling system shall be used. Boilers shall be condensing type. Chillers shall be centrifugal type. A modular heat recovery chiller shall be used. The 4-pipe plant shall provide heating and cooling to custom energy recovery VAV air handlers. Energy savings shall be realized by re-using waste heat from the chillers and feeding it back into the boiler and hot water loop systems of the building. A high temperature heating loop shall be used for domestic water and process heating. A low temperature loop connected to the heat recovery chiller shall provide heat to the HVAC and floor heating systems. A portion of the building shall be provided with a ground-coupled, closed-loop, water-source heat pump system. A Ground source heat pump (GSHP) field shall be located between the buildings. The GSHP system shall provide heating and cooling to custom energy recovery VAV heat pumps located on the roof of the multi-story building. Packaged ground-source heat pumps shall be used for the greenhouses with high/low return ductwork for improved temperature control. Solar collection panels on the roof of each of the three buildings shall be used with indirect solar exchanger tanks and separate domestic water tanks to heat the water for each building. Green power energy certificates will be purchased by Loudoun County to satisfy the Green-e program for engaging in a green power contract. A DDC building automation system will be installed with complete measurement and verification components and systems installed for ongoing trending and measurement to optimize energy efficiency as well as occupant comfort. Enhanced commissioning shall be provided for this project.

Materials and Resources (Achieve 1 Prerequisite, 7 points and 3 additional points possible):

Collection areas for the storage and collection of recyclables have been included inside the building. Recycling storage and collection areas are also located outside of the building on the site.

A plan will be designed to divert 50% of the construction waste from the landfills and these materials will be redirected to sites where they may be re-used or recycled. Specific areas on the site during construction shall be planned for the collection and separation of re-usable construction waste. Efforts will be made to raise this percentage to 75%.

Specifications for the building shall indicate materials that are 20% recycled content by weight of the product. Specifications shall require that 40% of all building materials are regional; they shall be extracted, processed and manufactured within a 500 mile radius of the site. This 40% level allows 2 credits plus one innovation and design credit. Rapidly renewable materials such as bamboo, linoleum, cotton and wheat board shall be specified for a 2.5% of the value of material for the building. FSC certified wood shall be specified for all doors, casework, finishes, sub-flooring dimensional lumber framing, and form work.

Indoor Environmental Quality (Achieve 2 Prerequisites, and 15 points):

In order to protect the health and productivity of the building occupants, the building shall comply with the minimum ASHRAE Standard 62.1-2204 for outdoor ventilation rates while balancing with energy efficiency. This rate will be increased by 30 % above the baseline.

An Indoor Air Quality plan shall be adopted for use during the construction process to control pollutant sources. SMACNA's standard for Occupied Buildings Under Construction shall be followed. Materials stored on site shall not be allowed to receive moisture damage, filters on air handlers shall be changed prior to occupancy, and the building shall be "flushed out" prior to occupancy.

The design of the building shall include that outdoor air shall be monitored for carbon dioxide and airflow and corrections made by the Building Automation System to ensure occupant comfort and well being.

Low emitting materials including adhesives, sealants, paints, carpet and wood products shall be specified.

Indoor chemical and pollutants produced by laboratories such as workrooms with copiers, rooms, cosmetology, graphics, engineering, construction, transportation shall be controlled by extending partitions to the ceiling and providing negative pressure to these spaces. Rugs and hose bibs will be provided at entryways to reduce contamination brought into the building by outside sources.

Task lighting and lighting system controllability for occupants shall be provided, promoting both energy efficiency and individual control over lighting systems. Thermal comfort controllability shall be achieved by providing controls to 50% of the building occupants and groups.

Thermal comfort shall be established in accordance with ASHRAE Standard 55-2004 for individual thermal comfort in the building and shall be delivered in accordance with the criteria established by this standard. Humidification systems shall be provided for each HVAC system in the building. This thermal comfort shall be verified by being monitored, documented, validated and corrected.

The design of the building has been centered around daylighting. Seventy-five percent of the regularly occupied spaces have windows that meet daylit level requirements. The building has been oriented on the site to received daylight. The design incorporates shading systems and photocell controls for additional electric lighting savings. A daylighting and energy modeling consultant shall be retained by the designer to verify illumination levels within the building.

Connections from the indoor to the outside spaces have been achieved in the design of the building by providing views to the outside from 90% of the regularly occupied spaces.

Innovation & Design Process (Achieve 6 points):

The Monroe Advanced Technology Academy will showcase the sustainable features as part of the educational tool for students. Connections to nature and the site shall be emphasized with environmental sciences programs using the stream and existing eco-systems as a learning tool. Within the building, environmental kiosks will show daylighting levels and energy usage.

The concept of Biophillic Design (promoting the inherent affinity that people have with nature) has been integrated throughout the design of the building. The building integrates with its site in a manner that brings nature and views into every space. Specific spaces such as the greenhouse, nursery and planted lathe areas are showcased and incorporated into the design of the building as a unique feature of the building. Plants are in view from every space. Plants will also be incorporated into the major spaces of the building such as the commons, circulation and outdoor dining areas. A ratio of plants to people within the building will be calculated.

Biophillic Design shall be incorporated in another manner; the greenhouse and mechanical systems of the building shall operate in a synergistic manner; an in-ground heat exchanger (duct) system shall be incorporated into the greenhouse design. The buried pipes will be cooled in the earth as fans pull the air from the hot stratified layers in the greenhouse and are delivered back into the greenhouse at plant level. This will allow the air to be cooled by the ground and cleaned by the photosynsthesis process improving indoor air quality in the greenhouse.

3 LEED Accredited Professionals have been involved in the preliminary design of Monroe Advanced Technology Academy.

LEED-NC

# LEED-NC Version 2.2 Registered Project Checklist

MONROE ADVANCED TECHNOLOGY ACADEMY
LOUDOUN COUNTY, VA

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 10 | 2 | 2 | **Sustainable Sites** | | 14 Points |
| Y | | | Prereq 1 | **Construction Activity Pollution Prevention** | Required |
| 1 | | | Credit 1 | **Site Selection** | 1 |
| | | 1 | Credit 2 | **Development Density & Community Connectivity** | 1 |
| | | 1 | Credit 3 | **Brownfield Redevelopment** | 1 |
| | 1 | | Credit 4.1 | **Alternative Transportation**, Public Transportation Access | 1 |
| 1 | | | Credit 4.2 | **Alternative Transportation**, Bicycle Storage & Changing Rooms | 1 |
| 1 | | | Credit 4.3 | **Alternative Transportation**, Low-Emitting and Fuel-Efficient Vehicles | 1 |
| 1 | | | Credit 4.4 | **Alternative Transportation**, Parking Capacity | 1 |
| | 1 | | Credit 5.1 | **Site Development,** Protect of Restore Habitat | 1 |
| 1 | | | Credit 5.2 | **Site Development,** Maximize Open Space | 1 |
| 1 | | | Credit 6.1 | **Stormwater Design,** Quantity Control | 1 |
| 1 | | | Credit 6.2 | **Stormwater Design,** Quality Control | 1 |
| 1 | | | Credit 7.1 | **Heat Island Effect,** Non-Roof | 1 |
| 1 | | | Credit 7.2 | **Heat Island Effect,** Roof | 1 |
| 1 | | | Credit 8 | **Light Pollution Reduction** | 1 |

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 5 | | | **Water Efficiency** | | 5 Points |
| 1 | | | Credit 1.1 | **Water Efficient Landscaping**, Reduce by 50% | 1 |
| 1 | | | Credit 1.2 | **Water Efficient Landscaping**, No Potable Use or No Irrigation | 1 |
| 1 | | | Credit 2 | **Innovative Wastewater Technologies** | 1 |
| 1 | | | Credit 3.1 | **Water Use Reduction**, 20% Reduction | 1 |
| 1 | | | Credit 3.2 | **Water Use Reduction**, 30% Reduction | 1 |

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 13 | 2 | 2 | **Energy & Atmosphere** | | 17 Points |
| Y | | | Prereq 1 | **Fundamental Commissioning of the Building Energy Systems** | Required |
| Y | | | Prereq 2 | **Minimum Energy Performance** | Required |
| Y | | | Prereq 3 | **Fundamental Refrigerant Management** | Required |
| 8 | 1 | 1 | Credit 1 | **Optimize Energy Performance** | 1 to 10 |
| 1 | 1 | 1 | Credit 2 | **On-Site Renewable Energy** | 1 to 3 |
| 1 | | | Credit 3 | **Enhanced Commissioning** | 1 |
| 1 | | | Credit 4 | **Enhanced Refrigerant Management** | 1 |
| 1 | | | Credit 5 | **Measurement & Verification** | 1 |
| 1 | | | Credit 6 | **Green Power** | 1 |

continued…

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 7 | 3 | 3 | **Materials & Resources** | | 13 Points |
| Y | | | Prereq 1 | **Storage & Collection of Recyclables** | Required |
| | | 1 | Credit 1.1 | **Building Reuse**, Maintain 75% of Existing Walls, Floors & Roof | 1 |
| | | 1 | Credit 1.2 | **Building Reuse**, Maintain 100% of Existing Walls, Floors & Roof | 1 |
| | | 1 | Credit 1.3 | **Building Reuse**, Maintain 50% of Interior Non-Structural Elements | 1 |
| 1 | | | Credit 2.1 | **Construction Waste Management**, Divert 50% from Disposal | 1 |
| | 1 | | Credit 2.2 | **Construction Waste Management**, Divert 75% from Disposal | 1 |
| | 1 | | Credit 3.1 | **Materials Reuse**, 5% | 1 |
| | 1 | | Credit 3.2 | **Materials Reuse**,10% | 1 |
| 1 | | | Credit 4.1 | **Recycled Content**, 10% (post-consumer + ½ pre-consumer) | 1 |
| 1 | | | Credit 4.2 | **Recycled Content**, 20% (post-consumer + ½ pre-consumer) | 1 |
| 1 | | | Credit 5.1 | **Regional Materials**, 10% Extracted, Processed & Manufactured Regic | 1 |
| 1 | | | Credit 5.2 | **Regional Materials**, 20% Extracted, Processed & Manufactured Regic | 1 |
| 1 | | | Credit 6 | **Rapidly Renewable Materials** | 1 |
| 1 | | | Credit 7 | **Certified Wood** | 1 |

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 15 | | | **Indoor Environmental Quality** | | 15 Points |
| Y | | | Prereq 1 | **Minimum IAQ Performance** | Required |
| Y | | | Prereq 2 | **Environmental Tobacco Smoke** (ETS) **Control** | Required |
| 1 | | | Credit 1 | **Outdoor Air Delivery Monitoring** | 1 |
| 1 | | | Credit 2 | **Increased Ventilation** | 1 |
| 1 | | | Credit 3.1 | **Construction IAQ Management Plan**, During Construction | 1 |
| 1 | | | Credit 3.2 | **Construction IAQ Management Plan**, Before Occupancy | 1 |
| 1 | | | Credit 4.1 | **Low-Emitting Materials**, Adhesives & Sealants | 1 |
| 1 | | | Credit 4.2 | **Low-Emitting Materials**, Paints & Coatings | 1 |
| 1 | | | Credit 4.3 | **Low-Emitting Materials**, Carpet Systems | 1 |
| 1 | | | Credit 4.4 | **Low-Emitting Materials**, Composite Wood & Agrifiber Products | 1 |
| 1 | | | Credit 5 | **Indoor Chemical & Pollutant Source Control** | 1 |
| 1 | | | Credit 6.1 | **Controllability of Systems**, Lighting | 1 |
| 1 | | | Credit 6.2 | **Controllability of Systems**, Thermal Comfort | 1 |
| 1 | | | Credit 7.1 | **Thermal Comfort**, Design | 1 |
| 1 | | | Credit 7.2 | **Thermal Comfort**, Verification | 1 |
| 1 | | | Credit 8.1 | **Daylight & Views**, Daylight 75% of Spaces | 1 |
| 1 | | | Credit 8.2 | **Daylight & Views**, Views for 90% of Spaces | 1 |

| Yes | ? | No | | | |
|---|---|---|---|---|---|
| 6 | | | **Innovation & Design Process** | | 5 Points |
| 1 | | | Credit 1.1 | **Innovation in Design**: Building - Educational Tool - Environment | 1 |
| 1 | | | Credit 1.2 | **Innovation in Design**: Biophillic Design | 1 |
| 1 | | | Credit 1.3 | **Innovation in Design**: Exceed innovative wastewater - fully replacing | 1 |
| 1 | | | Credit 1.4 | **Innovation in Design**: 40% local materials | 1 |
| 1 | | | Credit 1.5 | **Innovation in Design**: Reduce carbon footprint - Waste CO2 | 1 |
| 1 | | | Credit 2 | **LEED® Accredited Professional** | 1 |

| | | | | | |
|---|---|---|---|---|---|
| 56 | 7 | | **Project Totals** (pre-certification estimates) | | 69 Points |

**Certified** 26-32 points **Silver** 33-38 points **Gold** 39-51 points **Platinum** 52-69 points

A. Codes & Utilities (Detailed Life Safety Analysis in Separate Section).

1. Code Compliance:

a. The IBC Code - 2003:

1) Use Group E - Construction Type II B, Unprotected, Non-Combustible.

2) Fully Sprinklered.

b. Other Codes:

1) Virginia Uniform Statewide Building Code (VUSBC).

2) Loudoun County, Virginia Executive Regulations; Adoption of the 1996 N.E.C.

3) National Fire Protection Agency (NFPA).

4) International Mechanical Code (IMC).

5) International Plumbing Code (IPC).

c. Americans with Disabilities Act - 1990, Title II (ADAAG).

2. Available Utilities:

a. Water: Loudoun County Sanitary Authority.

b. Sewage Disposal: Loudoun County Sanitary Authority.

c. Electricity: Virginia Dominion Power.

d. Gas: Washington Gas.

e. Telephone: Verizon.

f. Cable: Adelphia.

B. Architectural

1. Foundations:

a. Footings: Reinforced concrete.

b. Walls: Concrete block and reinforced concrete.

c. Retaining Walls: Concrete Ivany block.

2. Structure:

a. Frame: Steel columns, beams, purlins, joists and trusses.

b. Floors:

1) First Floor: Concrete slab on grade. Provide vapor barrier and perimeter insulation.

2) Subsequent Floors: Concrete on metal deck.

c. Roof:

1) Low Pitch: 1-1/2" steel roof deck on steel joists and beams. Provide perforated acoustical metal deck with insulation at Engineering, Construction and Transportation Labs, Garage and Small Engine Repair Lab over steel joists.

2) Steep Pitch and Arched Roofs: Light gauge metal trusses.

a) Where otherwise required or noted, provide mechanical mezzanine space above upper-most floor rooms and between Labs (mechanical equipment may only need to be placed in every other bay).

2) Steep Pitch and Arched Roofs: (con't)

b) Roof/attic insulation installed at bottom of light gauge metal roof trusses and surround mechanical mezzanine/attic space.

3) Steep Pitch and Arched Roofs: 1-1/2" steel roof deck on steel trusses and/or beams.

3. Roof System:

a. Low Pitch: Adhered single-ply rubber membrane roofing over rigid insulation (tapered as required). UL Class A fire rated and FM I-90 wind uplift rating. Provide walkway pads to access rooftop mechanical units.

b. Steep Pitch and Arched Roofs: Standing seam metal over sheathing or Z purlins.

c. Greenhouse: Tinted, insulated Low-e glass.

d. Green Roof: Vegetative Cover roof system to include root barrier, vegetation carrier, and irrigation. To be installed above standard single-ply rubber membrane roof and drainage system.

e. Gravel Stops/Fascia: Color coated or anodized aluminum; color by Architect.

f. Rain Water Conductors: Internal, connected to storm water system.

g. Gutter and Downspouts: Color coated aluminum; color by Architect.

h. Soffits: Ventilated aluminum; color by Architect. Exterior grade gypsum panels where required; color by Architect.

4. Exterior Walls:

a. In general, 4" brick masonry (3 colors) with rigid cavity insulation, brick masonry or cast stone accent banding, 8" block backup and interior finishes as listed under "Interior Partitions."

b. Metal or composite spandrel panels at floor structure. Framing system/ connections for panels to be determined.

c. Windows and Greenhouse: Clear anodized aluminum horizontal sliding and fixed window units with screens. Tinted, insulated Low-e glass. Colors by Architect.

d. Exterior Doors:

1) Clear anodized aluminum doors and frames with 1/4" tempered glass at glazed doors. Color by Architect.

2) Flush anodized aluminum doors and frames at Receiving, Outdoor Storage and other areas as determined. Color by Architect.

3) Insulated aluminum rolling overhead doors. Color by Architect.

e. Storefront Assemblies: Clear anodized aluminum framing with 1" tinted,insulated Low-e tempered glass. Color by Architect.

5. Interior Partitions:

a. Epoxy-painted concrete block at Corridors, Locker Rooms, Custodial Closets, Kitchens, Technical Labs and other high abuse areas. Painted block at Classrooms. Eight inch (8") concrete block partitions shall be used where plumbing fixtures are indicated.

5. Interior Partitions: (con't)

b. Perforated Acoustic Concrete Block: Technical Labs.

c. Ground face concrete block shall be used as accent at Lobbies, Multi-Purpose Room, and in Corridors.

d. Wood paneling and acoustic treatment at Culinary Arts Dining.

e. Painted gypsum wallboard over metal stud in Administration, Health and Guidance areas and where otherwise designated, with sound barrier batt insulation.

f. Non-volatile organic compound (Non-VOC) paints shall be used on all partitions unless noted otherwise. Color by Architect.

g. Ceramic Tile, with a pattern, at Large Student Restrooms, Student Locker and Toilet Rooms, Serving, and Kitchen.

h. Bases: Rubber in areas having resilient flooring, carpet or wood. Terrazzo, ceramic tile and quarry tile to match similar floor finishes.

i. Doors: Generally solid core plastic laminate doors and hollow metal at labeled openings. Clear anodized, color coated, aluminum and _-inch tempered glass at vestibules. Colors selected by Architect. Sound seals on Technology Labs and Administrative doors.

j. Door Frames and Interior Glass Screens: Painted hollow metal generally. Aluminum at Vestibules. Color by Architect.

6. Floor Finishes:

a. Terrazzo: Monolithic at Main Entrance Lobby, Serving, Multi-Purpose Room, Corridors and Stair Towers.

b. Carpet: Classrooms and other Instructional Areas, Library, Computer Labs, Instructional Planning Centers, Administration, Guidance and Health (Office).

c. Vinyl Composition Tile: Classrooms, Soft Technology Labs, Instructional Storage, Janitor's Closets, Data Closets, and Health (areas not carpeted).

d. Quarry Tile: Kitchen

e. Ceramic Tile: Locker Rooms (partial - at shower and drying areas only), Large Student Restrooms and Faculty Restrooms.

f. Sealed Concrete: Technical Laboratories, Receiving, Lab Storage, Mechanical Equipment Rooms, Electrical rooms

g. Rubber: CJ Fitness Room

h. Accessible Floor: Removable concrete panels over 18" pedestals at CEID Lab.

7. Ceilings:

a. Lay-in Acoustic Tile: Generally, 2 x 4 tile throughout with selected areas having 2 x 2 or patterned tile.

b. Moisture-Resistant Acoustic Tile: Entrance Vestibules and Armstrong Clean Room VL" non-perforated vinyl-faced acoustic tile in Kitchen (all areas), Large Student Restrooms (with hold-down clips) and Locker Rooms (portions of) (with hold-down clips).

c. Gypsum Board: Selected areas as accent.

d. Exposed Construction: Technical Labs, Greenhouses, CJ Fitness, Locker Rooms (portions of), Mechanical Equipment Rooms, Receiving, and General Storage.

e. Fabric Covered Acoustic Clouds: Multi-Purpose Room.

8. Miscellaneous:

a. Porcelain enameled steel markerboards and vinyl cork tackboards with aluminum trim (Project to include eight Smart Boards).

b. Vinyl covered tackwall at Career Resource Center.

c. Toilet Rooms shall have solid plastic, floor-mounted overhead-braced toilet partitions with double-roll paper holders.

d. Surface-mounted, roll-type paper towel dispensers.

e. One (1) Handicap Accessible, Hospital Size multi-stop hydraulic elevator:

1) One Passenger/ Freight elevator, stainless steel doors and cab – 3500lb. Capacity with key-operated control and telephone.

f. Teacher mailboxes (80) with aluminum fronts, no locks.

g. Semi-recessed fire extinguisher cabinets. Color by Architect. Fire extinguishers by Owner.

h. Wood Library shelving at Career Resource Room and Library.

i. Complete graphic signage system throughout, dedication plaque and datestone.

j. Complete lightning protection system.

k. Master-keyed lock system shall be a removable cylinder-type system. Provide proximity card readers at primary building entrances (4 doors). Match existing School District hardware and lock system by BEST.

l. Plastic laminate casework throughout as indicated on the Drawings.

m. Metal lockers (580) @ 12" x 12" in Corridors, Locker Rooms, Kitchen Locker Room and Custodial Room.

n. Provide "food court" style food service equipment in Serving Area. Provide traditional food service equipment in Kitchen. Equipment will be identified on the Design Development Food Service Equipment Plans.

o. Electrically-operated projection screen at Multi-Purpose Room and other areas to be determined.

p. Cubicle curtains and track in Health Sciences area and Nurse Office.

q. Ten (10) Lighted display cases, locations to be determined at Design Development

r. Slate sills at windows.

s. Solid plastic benches in Locker Rooms.

t. Classroom door hardware, by BEST, is to include intruder locksets with capability to lock the doors from each side by key operation.

u. Greenhouse Shades: Interior fabric shades, suitable for commercial greenhouse use, motorized, electronically controlled for multiple units. Coverage for 60% of greenhouse roofs.

v. Paint Booths: Provide two commercial grade ventilated paint spray booths for Collision Repair Lab.

w. Other Fixed Equipment: A detailed equipment list developed in conjunction with LCPS has been developed as part of this document. All Equipment noted as "Fixed Equipment" is to be provided as part of the Construction Contract.

C. Site Work:

1. Site Clearing and Demolition:

a. Grading of site to restore original contours. Site disturbed during installation of new sanitary sewer running north south through center of site.

b. Site clearing and grubbing of plant materials designated to be removed.

c. Strip and stockpile topsoil.

2. Earthwork:

a. Unclassified excavation.

b. Rough grading and finish grading for entire site.

c. Reinforced steep slopes per geotechnical engineer recommendations.

d. Landscape finish grading.

3. Flexible Pavement:

a. Porous gravel pavement with decorative gravel in Gravelpave units for all parking areas. Provide 8" compacted gravel base over level, graded substrate.

b. Heavy use bituminous pavement with 10 inches VDOT 2A aggregate, 3-1/2 inches ID-2 binder course, 2 inches wearing course for access drives and bus zones.

4. Site Walls:

a. Segmental retaining wall systems where site walls are required or as indicated on the Drawings.

b. Brick screen walls at dumpster with metal gates at service/loading dock areas.

c. Brick-faced retaining wall with cast stone cap at kitchen service area".

d. Brick-faced screen wall with cast stone caps to screen kitchen service area.

5. Concrete Pavement:

a. Concrete walks around schools as indicated on the Drawings.

b. Concrete stairs and ramps as indicated on the Drawings.

c. Concrete curbs around all parking areas, drop-off areas, main drives and drives adjacent to building.

d. Reinforced ten inch thick concrete slab at service/loading dock area and dumpster pads.

6. Brick Pavement: Inlayed brick pavers on rigid base at main entrance "plaza area" .

7. Site Furnishings and Specialties:

a. Three feet six inch (3'-6") high anodized aluminum fence with vertical pickets on retaining walls where the difference between finished grades is greater than 30 inches.

b. Aluminum flagpoles (provide 3) with recess mounted spot lighting.

c. Aluminum traffic and directional signage mounted on break away square aluminum posts. Color selected by Architect.

d. Four feet high elevated dock with bumper at service area.

e. Gated dumpster enclosures at service areas.

f. Anodized aluminum handrails/guardrails at stairs, ramps and retaining walls as indicated on final drawings.

g. Steel bollards and embedded bollard cap filled with concrete. Color selected by Architect. Provide bollards as indicated on drawings.

h. Bike racks as indicated on drawings.

i. Benches as indicated on drawings.

j. Trash receptacles as indicated on drawings.

k. Building identification site signs.

8. Landscaping and Seeding:

a. Fertilizing and seeding of lawn areas.

b. New trees and shrubs as noted on the final drawings.

c. Maintain and protect existing mature trees designated to remain.

8. Storm drainage system as indicated on final drawings.

D. Civil Work

1. Site Drainage and Storm Water Management:

a. Provide new storm water inlets at the new roadways and parking lots to connect to new storm water conveyance system. Conveyance system shall be connected to control flow structures that distribute flow to detention system or to infiltration system. The storm water detention systems will be a sub-surface detention system. A multi-stage outlet structure (concrete) will be designed to discharge post development peak flow at pre-development rates.

b. Provide structural BMP's and non-structural BMP's to improve water quality of storm water discharges. Connect all rainwater leaders and internal roof drains to storm water collection system. Provide swales to promote surface flow of surface storm water/snow melt to storm water management system.

c. A combination of High Density Polyethylene Corrugated Pipe and Fittings along with Reinforced Cement Concrete Pipe and Precast Inlets, Manholes and Water Quality Inlets will be used to convey the runoff into the storm water detention basins.

2. Site Utilities:

a. Provide gravity sanitary sewer service connected to municipal system.

b. Provide domestic and fire protection water service connected to municipal system. Provide hydrants from a looped water main around the perimeter of the entire building.

c. Provide electrical service for building and site fixtures.

d. Install parking, roadway and general site lighting.

e. Provide natural gas service for the facility from the existing gas service located at the west end of the property.

3. Exterior Lighting:

a. General purpose and security lighting will be provided by pole-mounted, building-mounted and canopy-mounted, vandal-resistant metal halide lighting fixtures, controlled via a low voltage lighting control panel.

## INTRODUCTION

This document outlines a preliminary interpretation of the fire protection and life safety requirements and documents those areas where clarifications of the code's requirements would be submitted to the local plan review agency. Establishing mutual understandings early in the project will result in a more streamlined permitting and certificate of occupancy process. Included are excerpts from the 2003 International Building Code & 2003 International Fire Code for key information specific to this project building type.

The Life Safety Analysis is presented as follows:

A. Project Description
B. Summary of Approach
C. Detail of Approach
D. Clarifications
E. Code Abstract

## A. PROJECT DESCRIPTION

MATA is an approximate 210,000 SF advanced technology school contained within several connected buildings, organized in a campus scheme. The campus is planned to accommodate future growth of the facility. The new facility is proposed to be sprinkled for fire protection throughout.

This document is based on the following codes which will be / have been adopted by Loudoun County.

2003 International Building Code
2003 International Fire Code
2003 International Plumbing Code
2003 Virginia Statewide Uniform Building Code
ADA

## B. SUMMARY OF APPROACH

The following fire protection and life safety concepts follow a comprehensive approach to the building's overall design. These concepts include features meeting or exceeding minimum code requirements, but are developed from three major goals:

1. Detect developing fire conditions.
2. Provide occupant notification followed by safe and efficient egress.
3. Provide containment and control of the fire condition and products of combustion.

To achieve these goals, the comprehensive approach to the design of this facility will incorporate the following fire protection and life safety features:

1.Separated same use occupancy classification.
2.Type II B Unprotected, Noncombustible construction.
3.Complete automatic sprinkler protection within all enclosed portions of the facility.
4.Emergency power for lighting, exit signs and fire alarm system.
5.Portable fire extinguishers in select locations.

## C. DETAIL OF APPROACH

**The following information provides further detail as to the proposed operation and design features.**

1. Occupancy Classification –

Section 305 of the building code permits the type of construction for this building
Educational Group "E"

2. Type of Construction –

The type of construction for the new Advanced Technology Academy established by its size, location, fire suppression and occupancy group, will be Type II B Unprotected, Noncombustible construction. There are multiple buildings that make-up the complete Facility, all of the same occupancy but with area limitations. However, each of the buildings on site will be Type II B Unprotected, Noncombustible construction. The building code allows both height and area increased simultaneously when the building is provided with an automatic sprinkler system. Itemized square footage information is included in the Code Abstract in section E.

3. Automatic Sprinkler System -

The Facility will be protected with hydraulically designed and electrically supervised automatic sprinkler systems connected to a central station supervisory service. All enclosed areas (including enclosed service and support areas, locker rooms, offices, mechanical rooms and storage areas) will be equipped with automatic sprinkler systems as required.

4. Smoke/Heat Detectors –

Approved smoke detectors will be provided in the following locations:

a. Within existing elevator machine rooms.
b. Within sprinklered hoistways for elevator recall.
c. At elevator lobbies (see below).

Upon activation, smoke detectors in the HVAC ducts will automatically shut-down the affected HVAC unit. The smoke detectors in elevator lobbies, machine rooms and hoistways will initiate emergency elevator operations upon activation.

Heat detectors will be provided in elevator machine rooms and within sprinklered elevator hoistways for automatic power disconnect. Heat detectors are also proposed at exterior elevator entries to affect elevator recall.

5. Portable Fire Extinguishers -

Portable fire extinguishers are proposed throughout the new additions.
Fire extinguishers are proposed at each of the following locations:

a. Throughout special-hazard areas, including but not limited to: laboratories, computer rooms, generator rooms and where required by the fire code official.
b. Also each floor under construction.

## D. CLARIFICATIONS

Code interpretations will be requested on the following issue.

1. Occupancy Classification for Assembly Use Spaces (Accessory to Group "E" Occupancies) - such as Cafeterias.

Assembly areas that are accessory to Group "E" are not considered separate occupancies – 302.2.1

## E. CODE ABSTRACT

| 1. BUILDING CODES | 2003 International Building Code<br>2003 International Fire Code<br>2003 International Plumbing Code<br>ADA | |
|---|---|---|
| 2. GENERAL DESCRIPTION | 2003 International Building Code | |
| Occupancy Classification | Educational – "E" Occupancy | Section 305 |
| Construction Type | II-B Construction Type<br>Proposed | Table 503 |
| Allowable Floor Area:<br>Floor areas listed are compartmentalized with allowable increases for automatic sprinkler system. | "E" Occupancy 43,500 s.f. | Table 503, with allowable area increases per 506 Sprinkler system increase per 506.3. |
| Allowable Building Height:<br>Building heights listed are with allowable increases for automatic sprinkler system throughout. | "E" Occupancy 3 Stories | Table 503 with maximum height increase (of 1 story) per 504.2. |

| 3. FIRE RESISTANCE REQUIREMENTS | 2003 International Building Code | |
|---|---|---|
| Construction Type II B : | Noncombustible materials for building elements listed in Table 601 | 602.2 |
| Structural Frame including columns, girders, and trusses | 0 Hour Rated (Non Rated) | Table 601 |
| Bearing Walls:<br>Exterior/Interior | 0 Hour Rated (Non Rated) | Table 601 |
| Nonbearing Walls and Partitions:<br>Exterior/Interior | Distance measured to adjacent Property line<br>30 feet and greater 0 Hour rated | Table 601,<br>Table 602 |
| Floor Construction:<br>Including supporting beams and joists | 0 Hour Rated (Non Rated) | Table 601 |
| Roof Construction:<br>Including supporting beams and joists | 0 Hour Rated (Non Rated) | Table 601 |
| Shaft Enclosures | 1 Hour when connecting less than 4 stories. | 707.4 |
| Stairway Construction | 1 Hour when connecting less than 4 stories. | 1019.1 |
| Exit Access Corridors | 0 Hour Rated (Non Rated) | Table 1016.1 |

**E. CODE ABSTRACT (continued)**

| 4. MEANS OF EGRESS | 2003 International Building Code | |
|---|---|---|
| **Occupant Load Factors:** | | Table 1004.1.2 |
| Non-Seating Areas: | | |
| Conference Room | 15 ft.2 net per person | |
| Offices & Business | 100 ft.2 gross per person | |
| Storage, Mechanical | 300 ft.2 gross per person | |
| Kitchen | 200 ft.2 gross per person | |
| Locker Rooms<br>Staff Lockers<br>Student Lockers | 50 ft.2 gross per person | |
| Maintenance | 300 ft.2 gross per person | |
| Assembly Seating<br>Cafeteria | 15 ft.2 net per person | |
| Posting of Occupant Load: | Every room or space that is an assembly occupancy shall have the occupant load of the room or space posted in a conspicuous place, near the main exit or exit access doorway from the room or space. Posted signs shall be of an approved legible permanent design and shall be maintained by the owner or authorized agent. | 1004.3 |

| 4. MEANS OF EGRESS (continued) | | |
|---|---|---|
| **Exit Access Travel Distance:** | | |
| Per Occupancy | "E" Occupancy 250 feet | Table 1015.1<br>1024.7 |
| Path through adjacent rows | For smoke-protected assembly seating there shall not be more than 40 seats between the two aisles and the minimum clear width shall be 12 inches plus 0.3 inches for each additional seat. | 1024.8.1<br>Exception |
| Common Path of Travel to a point where a person has a choice of two directions of travel | "E" Occupancy 75 feet | 1013.3 |
| Dead End Corridors<br>Group "E" Sprinklered | 20 ft. maximum<br>A dead-end corridor shall not be limited in length where the length of the dead-end corridor is less than 2.5 times the least width of the dead-end. | 1016.3<br>1016.3 (3) |

**E. CODE ABSTRACT (continued)**

| 4. MEANS OF EGRESS (continued) | | |
|---|---|---|
| **Exit Width:** | | |
| Minimum Corridor Width | 44 in. or as determined in table 1005.1<br>36 in. if serves less than 50 | 1016.2<br>1016.2 (2) |
| Minimum Exit Width for Non-Smoke protected Areas with sprinklers | 0.2 in. per person for stairs<br>0.15 in. per person for other egress components (doors, ramps & corridors, etc.) | Table 1005.1 |
| Assembly Main Exit | In assembly occupancies where there is no well-defined main exit or where multiple exits are provided, exits shall be permitted to be distributed around the perimeter of the building provided that the total width of egress is not less than 100 percent of the required width. | 1024.2 (Exception) |
| Minimum Number of Exits for Occupant Load: | 2 1-500 occupants per floor<br>3 501-1000<br>4 More than 1000 | Table 1018.1 |
| Egress Convergence: | Where means of egress from floors above and below converge at an intermediate level, the capacity of the means of egress from the point of convergence shall not be less than the sum of the two floors. | 1004.5 |

| 4. MEANS OF EGRESS (continued) | | |
|---|---|---|
| **Stairways:** | | |
| Riser | 7 in. maximum, 4 in. min. | 1009.3 |
| Tread | 11 in. minimum | 1009.3 |
| Dimensional Uniformity | Tolerance between largest and smallest risers or largest and smallest treads not to exceed .375 in. in any flight of stairs. | 1009.3.1 |
| Minimum Stair Width | 44 in. min. and as determined by 1005.1<br>36 in. if serves 50 occupants or less | 1009.1<br>1009.1 (1) |
| Headroom | 80 min. (6′-8″) minimum clearance above nosing. | 1009.2 |
| Minimum Landing Width | Same as stair width, min. | 1009.4 |
| Minimum Landing Length | Width of stairway, min.; need not exceed 48 in. where stairway has a straight run. | 1009.4 |
| Maximum Vertical Rise between Floors or Landings | 12 feet | 1009.6 |
| Stair Handrails | Required on both sides of stairs. Height shall be uniform, not less than 34 inches and not more than 38 inches above stair nosing. | 1009.11<br>1009.11.1 |
| Intermediate Handrails | Intermediate handrails are required so that all portions of the stairway width **required for egress capacity only** are within 30″ of a handrail. On monumental stairs, handrails shall be located along the most direct path of egress travel. | 1009.11.2 |

## E. CODE ABSTRACT (continued)

| 4. MEANS OF EGRESS (continued) | | |
|---|---|---|
| **Ramps:** | | 1010 |
| Maximum Slope for Egress | 1:12 | 1010.2 |
| All Others | 1:8 | 1010.2 |
| Cross Slope: | 1:48 | 1010.3 |
| Maximum Rise of Run | 30″ | 1010.4 |
| Width | Min. egress width not less than that for corridors by 1016.2 | 1010.5.1 |
| Headroom | All parts of ramp to be 80 in. min. | 1010.5.2 |
| Landings | Cross slope 1:48 max. any direction. | 1010.6.1 |
| Width | Ramp landing to be at least as wide as the widest adjoining ramp run. | 1010.6.2 |
| Length | 60 in. min. | 1010.6.3 |
| Landing changing Ramp direction | 60 in. by 60 in. min. | 1010.6.4 |
| Surface of Ramps | Slip resistant. | 1010.7.1 |
| Handrails | Required along both sides when slope of ramp rise is greater than 6″.<br>To comply with section 1009.11 requirements – see above. | 1010.8 |
| Edge Protection | Edge protection complying with section 1010.9.1 or 1010.9.2 shall be provided on each side of ramp runs and at each side of ramp landings | 1010.9 |
| Railings | A rail shall be mounted below the handrail 17″ to 19″ above the ramp or landing surface | 1010.9.1 |
| Curb or Barrier | A curb or barrier shall be provided that prevents the passage of a 4″ diameter sphere, where any portion of the sphere is within 4″ of the floor or ground surface. | 1010.9.2 |

| 4. MEANS OF EGRESS (continued) | | |
|---|---|---|
| Guards | Required along open-sided walking surfaces and elevated seating which is more than 30 in. above floor or grade below. Exception: Loading docks. | 1012.1<br>1012.1 (1) |
| Height | 42 in. above leading edge of a stair tread, adjacent walking surface or adjacent seatboard | 1012.2 |
| Openings | Less than 4″ diameter sphere to a height of 34″ (26″ in Assembly seating areas) and less than a 8″ sphere from 34″ to 42″ (26″-42″ in Assembly seating areas). Also, a 6″ diameter sphere shall not pass through a triangular opening formed by a tread, riser and bottom of guardrail. | 1012.3 and Exceptions |
| Non-Public Rails | Openings rejecting a 21″ sphere allowed in non-public spaces. | 1012.3 (2) |
| **Doors:** | | |
| Opening Protection | Fire protection rating for individual doors to be determined by table. | Table 715.3 |
| Minimum Clear Width | Sufficient for occupant load and 32 in. min. | 1008.1.1 |
| Width of Leaf | 48 in. max. | 1008.1.1 |
| Height | 80 in. min. | 1008.1.1 |
| Swing | Doors shall swing in the direction of egress travel where serving an occupant load of 50 or more. | 1008.1.2 |
| **Hardware:** | | |
| Panic Hardware | Required for latches on doors where occupant load is 100 or more. | 1008.1.9 |
| Thresholds | Swinging doors 0.5 in max. | 1008.1.6 |
| Landings at Doors | Doors, when fully open, shall not reduce the required width by more than 7 in. Doors in any position shall not reduce the required width by more than one-half. | 1008.1.5<br>1013.4 (Exception) |

**E. CODE ABSTRACT (continued)**

| 5. FIRE EXTINGUISHERS | 2003 International Fire Code | |
|---|---|---|
| **Portable Fire Extinguishers:** | | |
| Required Locations | Group "E" equipped with quick response sprinklers require fire extinguishers only in special-hazard areas, including but not limited to: laboratories, computer rooms, generator rooms and where required by the fire code official. Also each floor under construction and where required by table 906.1. | 906.1 (Exceptions 1,4,5 & 6) |
| | Within 30 ft. of commercial cooking equipment. | 906.1 (2) |
| | Cooking equipment involving vegetable or animal oils and fats shall be protected by a Class "K" rated portable extinguisher. | 904.11.5 |
| | Areas where flammable or combustible liquids are stored. | |
| | Maximum travel distance: 75 feet | 906.1 (3) |
| Distribution | | Table 906.3 (1) & NFPA 10, Chapter 5 |

| 6. MISCELLANEOUS: | 2003 International Building Code | |
|---|---|---|
| **Elevators:** | | |
| Requirements | Every elevator must shall be designed in accordance to ANSI A17.1 | 3001 |
| Emergency Signs | An approved pictorial sign must be installed adjacent each elevator call station on all floors to read: "IN FIRE EMERGENCY DO NOT USE ELEVATOR. USE EXIT STAIRS." Not required at elevators used for accessible egress. | 3002.3 |
| Venting | Hoistway venting is not required where building is equipped throughout with an approved automatic sprinkler system. | 3004.1 (1) |
| Exit Signs | Not required at main exterior exit doors or gates which obviously and clearly are identifiable as exits need not have exit signs where approved by the building official. | 1011.1(2) |
| Minimum Plumbing Facilities: | "E" Occupancy | Table 2902.1 |
| Water Closets | Male: 1 per 50<br>Female: 1 per 50 | |
| Urinals: | In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets. | 419.2 (IPC) |
| Lavatories | Male: 1 per 50<br>Female: 1 per 50 | |
| Drinking Fountains | All: 1 per 100 | |
| Service Sinks | 1 required | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**GENERAL CLASSROOMS/LABS**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**4a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 4a.1 | COMPUTER LABORATORY | | 30 - TASK CHAIRS | 30 - COMPUTER WORK STATIONS<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • COMPUTER LAB CASEWORK<br>• TEACHERS BUILT-IN WORKSTATION<br>• WHITE BOARD<br>• TACK BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD |
| 4a.2 | DISTANCE LEARNING LAB/GROUP MEETING | ACOUSTIC TREATMENT | • LARGE CONFERENCE TABLE TO SEAT 20<br>20 - CONFERENCE CHAIRS | • MULTIMEDIA LECTERN PLATFORM<br>• A/V MULTIMEDIA COMPUTER STATION<br>• NETWORKED WIRELESS LAPTOP CARTS WITH 30 NOTEBOOK COMPUTERS | • PLATFORM<br>• ADJUSTABLE STAGE LIGHTING<br>• LCD PROJECTION SCREEN<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• TACK BOARDS<br>• WHITE BOARD |
| | CONTROL ROOM | | | | |
| | | | • WINDOW INTO LAB | | • LOCKABLE CABINET<br>• COUNTER SPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER **5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.1a | **LPN CLASSROOM 1 & 2 (2)** | CLASSROOMS IDENTICAL | • MANNEQUINS<br>1 - TEACHERS DESK<br>2 - TABLES<br>20 - STUDENT CHAIRS<br>• OVERHEAD<br>• SKELETON<br>26 - MAP HOOKS<br>20 - TRAPEZOID TABLES<br>2 - BOOKSHELVES<br>2 - FILE CABINETS<br>1 - SMALL TABLE | 4 - COMPUTERS<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • TV/VCR/DVD/LCD<br>• TACK BOARD<br>• MARKER BOARD<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>4 - CABINETS TO HOLD PLASTIC STORAGE BINS<br>• GENERAL CASEWORK FOR STORAGE |
| 5a.1b | **LPN SKILLS LAB (1)** | • ISOLATION ROOM 600SF<br>• NOURISHMENT STATION TO SIMULATE MEAL PREP SERVING TRAYS TO PATIENTS WORKING WITH FORMULA<br>• SIMULATED NURSE STATION 100SF<br>• HANDICAP BATHROOM SHOULD BE LOCATED BY BEDS. FOR STUDENT PRACTICE OF TRANSFERRING OF PATIENTS<br>• LOTS OF SHELVING<br>• LIBRARY LOCATED NEXT TO OR IN LAB NEEDS TO MEET BOARD OF NURSING REGULATIONS<br>• EQUIPMENT TO BE SAME AS INOVA | ISOLATION ROOM | | |
| | | | 1 - BEDSIDE CARTS | 1 - HOSPITAL BED 7 1/2' X 3' REQUIRES 120V 3 PRONG 6 OUTLETS | 1 - SINK |
| | | | NOURISHMENT STATION | | |
| | | | | 1 - SMALL FRIDGE<br>1 - MICROWAVE | 1 - SINK<br>• GENERAL CASEWORK |
| | | | SIMULATED NURSE STATION | | |
| | | | • FILE CABINET | • COMPUTER | • RECEPTION COUNTER |
| | | | LIBRARY | | |
| | | | | | • GENERAL CASEWORK |
| | | | HANDICAP BATHROOM | | |
| | | | • LIKE IN HOSPITAL | | 1 - SINK<br>1- TOILET<br>• POSSIBLE SHOWER<br>• SOAP DISPENSER<br>• SHELF MIRROR ABOVE<br>• EMER. CALL LIGHT |
| | | | GENERAL LAB REQUIREMENTS | | |
| | | | • CABINET TO STORE ORGAN MODELS<br>• WEIGHT SCALE<br>3 - LINEN HAMPERS<br>2 - CHART RACKS<br>5 - CUBICLE CURTAINS<br>2 - STRETCHERS<br>2 - WHEELCHAIR<br>2 - GERIATRIC CHAIR | 2 - IM COMPUTERIZED ARM FOR INJECTIONS<br>2 - SIMULATED CHARTING STATION W/ COMPUTER<br>3 - DATA SCOPES<br>• MACHINE SUCTION<br>6 - HOSPITAL BEDS 7 1/2' X 3' REQUIRES 120V 3 PRONG 6 OUTLETS | 6 - EQUIPMENT PANELS FOR BEHIND BEDS<br>5 - SINKS TO ACCOMMODATE BEDS (AS IN HOSPITAL SETTING) COULD BE 1' DEEP REQUIRES 8 ELEC. PLUGS 120V 3 PRONG 4 UP HIGH 4 DOWN LOW |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.1b | **CONTINUED** | | 5 - MANNEQUINS<br>• LOCKABLE STORAGE EQUIPMENT<br>6 - IV PUMP 2' W X 7'H TO BE BY BED<br>6 - BEDSIDE CABINET<br>6 - BEDSIDE TABLE<br>6 - IV PUMPS<br>1 - LINEN CABINET LARGE<br>2-3 - TABLES<br>20 - CHAIRS<br>• GLOVES/RACK | 2 - BP & SPO2 MACHINES 21" W X 54" H<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • HOSPITAL HEADWALL WITH AIR SUCTION BINS. CABINET IN WALL WHERE TANK IS STORED<br>• TACK BOARDS<br>• WHITE BOARD<br>2 - ALCOHOL HAND DISPENSER<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.1c | **LPN PROGRAM OFFICE SUITE** | • SPACE FOR FOUR INSTRUCTORS<br>• SPACE FOR SECRETARY<br>• STORAGE FOR PROGRAM RECORDS | 1 - WORK TABLE<br>• LOCKABLE FILE CABINETS<br>5 - TASK CHAIRS<br>5 - TEACHER DESK | 4 - COMPUTERS<br>• TELEPHONE | • MARKER BOARD<br>• GENERAL CASEWORK/ BOOK SHELVING |
| 5a.1d | **SKILLS LAB STORAGE (1)** | • LOCKED STORAGE LARGER THEN 28' X 10' FOR STRETCHER, MED CARTS SYRINGES, PORTERS, VIDEOS, TEST TUBES, WALKERS, MODELS, BEDPANS, WHEELCHAIR, ETC | | | • LOCKABLE CASEWORK WITH COUNTER SPACE AND/OR METAL SHELVING |
| 5a.1e | **LPN PROGRAM EQUIPMENT STORAGE (1)** | | | | 2 -3 OUTLETS<br>• LOCKABLE CASEWORK WITH COUNTER SPACE AND/OR METAL SHELVING |
| 5a.1f | **LPN PROGRAM HANDICAP TOILET (1)** | | | | • TOILET<br>• SINK<br>• FLOOR DRAIN |
| 5a.1g | **HEALTHCARE/ LABORATORY TECHNICIAN CLASSROOM(3)** | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | • PRINTER<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION<br><br>4 - STUDENT COMPUTER STATIONS | • MARKER BOARDS<br>• TACK BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.2a | **HEALTHCARE/ LABORATORY TECHNICIAN LAB (3)** | • SET UP SIMILAR TO SCIENCE LAB<br>• TO SHARE WITH AoJ | | • REFRIGERATOR<br>• 4' X 6' MOVEABLE DEMONSTRATION ISLAND<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • SINKS<br>• FLOOR DRAIN<br>• EYEWASH<br>• FUME HOOD<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.2b | **LAB TECH OFFICE SUITE (1)** | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5a.2c | **HANDICAP TOILET** | | | | • SINK<br>• TOILET<br>• GRAB BARS<br>• FLOOR DRAIN |
| 5a.2d | **LAB TECH STORAGE (1)** | | • VARIOUS SIZED SHELVING OR BUILD IN CASEWORK | | |
| 5a.3a | **ADMINISTRATION OF JUSTICE CLASSROOM (1)** | • ACCESS TO OUTDOORS FOR OUTDOOR TRAINING. AT GRADE LEVEL FOR ALL PROGRAMS | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • TACK BOARDS<br>• MARKER BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.3b | **AoJ PROGRAM STORAGE (1)** | | • VARIOUS SIZED SHELVING | | |
| 5a.4a | **PHYSICAL TRAINING ROOM (1)** | • OPEN AREA FOR DEFENSIVE TACTICS<br>• DIRECT ACCESS TO LOCKER ROOMS<br>• SHARED SPACE<br>• SHOCK ABSORBENT FLOOR<br>• STORAGE ROOM FOR ROLL OUT FLOOR MATS | • FREE WEIGHTS | • WEIGHT TRAINING<br>• CARDIO MACHINES<br>• ROLL OUT MATS<br>• BASKETBALL AREA | • MATS ON WALL |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER **5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.4b | **AoJ FORENSIC LAB** | • 800 SF. TO BE ADJACENT TO HEALTHCARE/ LABORATORY TECHNICIAN LAB | | • TEACHER A/V MULTIMEDIA COMPUTER STATION | • GENERAL CASEWORK 30 FT OF WORKING LAB COUNTER REQUIRED FOR FINGERPRINTING, FORENSICS, CENTRIFUGE, SINK.<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.5a | **FIREFIGHTER/ EMT CLASSROOM/ LAB (1)** | • HIGH BAY SPACE, 18' CLEAR FOR LADDERS, RAPPELLING AND HOSES<br>• APARTMENT TO BE LOCATED ON UPPER LEVEL<br>• INSTRUCTIONAL / PHYSICAL RELATIONSHIP BETWEEN EMT AND LPN PROGRAMS DESIRED | FIREFIGHTER/EMT CLASSROOM | | |
| | | | 20 - STUDENT DESKS<br>24 - DESK CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • MARKER BOARDS<br>• TACK BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| | | | FIREFIGHTER/EMT LAB | | |
| | | | | • HOSE RACK<br>• TURN OUT GEAR RACK<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • EMS BACK OF AMBULANCE TRAINER 100SF<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.5b | **SIMULATED TRAINING AREA** | | | | • LR/DR/KITCHEN AT 300 SF<br>• BEDROOM AT 120 SF<br>• BATHROOM AT 50 SF |
| 5a.5c | **FIREFIGHTER PROGRAM STORAGE (1)** | | • VARIOUS SIZED SHELVING | | |
| 5a.5d | **VEHICLE SHELTER (1)** | • OUTDOOR FIRE HYDRANT | | • FIRE TRUCK<br>• AMBULANCE<br>• POLICE CAR | |
| 5a.5e | **AoJ PROGRAM STORAGE (1)** | | • VARIOUS SIZED SHELVING | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.5f | **AoJ/ FIREFIGHTER OFFICE SUITE(1)** | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5a.5g | **AoJ/ FIREFIGHTER LOCKER / TOILETS / SHOWERS(2)** | | | | • FLOOR DRAINS<br>• TOILETS<br>• SINKS<br>• LOCKERS<br>• SHOWERS |
| 5a.5h | **AoJ/ FIREFIGHTER LAUNDRY (1)** | | | • WASHER<br>• DRYER<br>•GEAR WASHER | |
| 5a.6a | **COSMETOLOGY/ NAIL DESIGN LABORATORY(2)** | •MAKE-UP NOOK<br>• TWO AREAS FOR DISPLAY<br>• BACKWASH SHAMPOO UNITS. SEPARATED BY GLASS WALL<br>•BACK TO BACK STYLING STATIONS ALONG PERIMETER<br>•DRYER STATIONS IN CENTER ZONE.<br>•RAISED DIAS (6' X 6') IN MIDDLE OF LAB FOR DEMONSTRATIONS<br>• TWO MULTIPURPOSE SPA ROOMS, APPROXIMATELY 8'<br>• TWO COLOR/MIXING STATIONS IN NOOK<br>• TWO MULTIPLE-PURPOSE ROOMS FOR FACIALS/WAXING WITH OPERABLE PARTITION FOR DEMONSTRATION / TRAINING. PRIVACY REQUIRED. CUSTOMER RECLINED. CLINICAL ROOM | SPA ROOM (ONE CLASSROOM ONLY)<br>1 - THREE SHELF CART<br>1 - TASK CHAIR<br>1 - SPA TABLE | 1 - SKIN CARE UNIT<br>1 - HOT TOWEL CABINET | 2 - DISPENSARY SINK<br>• CASEWORK FOR GENERAL SANITATION, DISINFECTION, AND STORAGE PURPOSES |
| | | | NAIL CARE LABORATORY AREA (ONE CLASSROOM ONLY)<br>20 - MANICURE TABLE<br>20 - TASK CHAIR<br>20 - CLIENT/RECEPTION<br>8 - CLIENT/RECEPTION CHAIRS FOR CLIENT SEATING IN A WAITING | 2 - HOT TOWEL CABINETS | 2 - DISPENSARY SINK<br>• CASEWORK FOR GENERAL SANITATION, DISINFECTION, AND STORAGE PURPOSES |
| | | | PEDICURES LABORATORY AREA (ONE CLASSROOM ONLY)<br>4 - CLIENT/RECEPTION CHAIRS FOR CLIENT SEATING IN A WAITING | 4 - PEDICURE SPA<br>1 - HOT TOWEL CABINETS | 2 - DISPENSARY SINK<br>2 - TOWEL STORAGE CABINETS<br>• CASEWORK FOR GENERAL SANITATION, DISINFECTION, AND STORAGE PURPOSES |
| | | | GENERAL SHAMPOO AREA | | 15 - BACKWASH SHAMPOO CHAIR<br>5 - TRIPLE BACKWASH UNIT |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.6a | **CONTINUED** | •SEPARATE ROOM FOR NAIL STATIONS. GLASS WALL FOR OBSERVATION. VENTED TABLES WITH SEPARATE VENTILATION FOR SPACE.<br>• GENERAL SHAMPOO AREA TO BENEFIT BOTH CLASSES<br>• SPA FEEL | HAIR COLOR AREA | | |
| | | | | | 8 - HYDRAULIC STYLING CHAIRS(4 PER LAB) |
| | | | COSMETOLOGY LAB AREA | | |
| | | | 2 - RECEPTION TABLES (FOR MAGAZINES LOCATED IN COLOR AND DRYER AREA)(1 PER LAB)<br>4 - MAKEUP CHAIRS (2 PER LAB FOR PROFESSIONAL MAKEUP AREA) | 20 - DOUBLE STYLING STATIONS(10 PER LAB)<br>14 - DOUBLE DRYER CHAIRS (7 PER LAB)<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | 4 - DISPENSARY SINK (2 PER LAB)<br>• CASEWORK FOR GENERAL SATIATION, AND DISINFECTION PURPOSES<br>• EYEWASH<br>40 - HYDRAULIC STYLING CHAIRS(20 PER LAB)<br>• CEILING MOUNTED LCD PROJECTOR<br>• SMARTBOARD<br>• LCD PROJECTION SCREEN |
| 5a.6b | **COSMETOLOGY/ NAIL CLASSROOM (1)** | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHER A/V MULTIMEDIA COMPUTER STATION | • TACK BOARDS<br>• MARKER BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| 5a.6c | **DISPENSARY (2)** | | | • STACK WASHER/DRYER | 2 - DISPENSARY SINK<br>• CASEWORK FOR GENERAL SATIATION AND DISINFECTION PURPOSES |
| 5a.6d | **COSMETOLOGY/ NAIL DESIGN LOCKERS/ TOILETS (2)** | • LOCKER SPACES TO BE HIDDEN<br>• ACCESS LOCKERS FROM CLASSROOM | | | • FLOOR DRAINS<br>• TOILETS<br>• SINKS<br>• LOCKERS |
| 5a.6e | **COSMETOLOGY/ NAIL DESIGN OFFICE SUITE(1)** | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HEALTH AND HUMAN SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5a.6f | **COSMETOLOGY/ NAIL DESIGN RECEPTION (1)** | • GLASS WALL FOR VIEWING INTO WAITING AREA FROM LAB AND CORRIDOR | 12 - CLIENT/RECEPTION CHAIRS<br>2 - RECEPTION TABLES<br>2 - RETAIL DISPLAYS<br>• TASK CHAIR | • COMPUTER<br>• PHONE | • RECEPTION COUNTER |
| 5a.6g | **COSMETOLOGY/ NAIL DESIGN LAUNDRY (1)** | • ODOR CONTROL | | • COMMERCIAL GRADE WASHER/DRYER | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HOSPITALITY AND TOURISM**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5b**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVEABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5b.1a | CULINARY ARTS LABORATORY (KITCHEN)(1) | • SPACE FOR 20 STUDENTS<br><br>KITCHEN ZONES:<br>• DISHWASHING/POTS & PANS<br>• BAKING<br>• HOT FOOD PREPARATION<br>• COLD FOOD PREPARATION<br>• GRADE ACCESS FOR DELIVERY AND SERVICE. CLOSE TO FRONT ENTRANCE OR SEPARATE OUTSIDE ENTRANCE FOR SENIOR CITIZENS.<br>• COLD FOOD PREPARATION TO BE CLOSE TO REFRIGERATOR | DISHWASHING/POTS & PANS | | |
| | | | | • GENERAL WIRE SHELVING FOR CLEANING SUPPLIES<br><br>3 - DISH CADDY SYSTEM<br>1 - CLEAN DISH TABLE<br>1 - DIRTY DISH TABLE | 1 - DISHWASHER CONDENSATION HOOD<br>1 - SOAKING SINK<br>1 - SINK WITH GARBAGE DISPOSAL & SPRAY<br>• VENTILATION<br>1 - DOOR TYPE DISH MACHINE<br>• FLOOR DRAIN |
| | | | BAKING | | |
| | | | 2 - PROOFER<br>1 - BAKING RACK<br>1 - MICROWAVE<br>1 - CONVECTION OVEN DOUBLE<br>2 - FLOOR MIXER | • GENERAL WIRE SHELVING FOR MIXERS BOWLS, INGREDIENT BINS<br><br>• SHELVING W/ DRAWERS FOR SPATULAS, MEASURING UTENSILS, ETC.<br>• WORKTABLES W/ SHELVES UNDER FOR BAKING SHEETS, COOLING RACKS, ETC. | • FLOOR DRAIN<br>• GENERAL COUNTER SPACE |
| | | | HOT FOOD PREPARATION | | |
| | | | 1 - SLICER<br>1 - CHOPPER<br>1 - FLOOR MODEL FRYER | 2 - 6 BURNER RANGE W/ FLAT GRIDDLE<br>•POT AND PAN RACK<br>• GENERAL WIRE SHELVING FOR STORAGE<br>1 - PRESSURE STEAMER<br>1 - BRAZIER<br>1 - WARMER<br>1 - STEAM TABLE<br>1 - PLATE WARMER<br>1 - GAS GRILL W/ 2ND RANGE<br>• STORAGE FOR PLATES, SOUP BOWELS, ETC. | • GENERAL COUNTER SPACE<br>1 - EXHAUST AND VENTILATION HOOD<br>• FLOOR DRAIN |
| | | | COLD FOOD PREPARATION | | |
| | | | 1 - VEGETABLE PEELER<br>1 - GREENS MACHINE<br>1 - SLICER<br>1 - CHOPPER | • STORAGE FOR PLATES, SOUP BOWELS, ETC. | 1 - VEGETABLE SINK<br>1 - GARBAGE DISPOSAL<br>• FLOOR DRAIN<br>• GENERAL COUNTER SPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HOSPITALITY AND TOURISM**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5b**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVEABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5b.1a | CONTINUED | | OTHER GENERAL CULINARY ARTS LABORATORY EQUIPMENT | | |
| | | | 6 - STAINLESS STEEL WORK TABLE<br>2 - PROTECTOR-COVER<br>1 - TILTING SKILLET<br>• TOASTER<br>1 - DRYING RACK<br>4 - ROLL-IN RACK<br>1 - DRYING RACK<br>4 - ROLL-IN RACK<br>2 - HEAT LAMP<br>• WAFFLE IRON<br>12 - KITCHEN AID 5 QT MIXERS AND SHELF UNIT<br>1 - SALAD SPINNER<br>24 - TABLE TOP MIXERS<br>2 - WARMING CARTS<br>2 - REFRIG. CARTS<br>1 - BOOSTER HEATER<br>1 - VERTICAL CUTTER MIXER<br>4 - STAINLESS STEEL WORK TABLE | 1 - STEAM JACKET KETTLE<br>1 - BOWL CUTTER<br>2 - 30 QT. FLOOR MIXER<br>2 - 20 QT STAND MIXER<br>1 - TILTING SKILLET<br>1 - FRYER<br>1 - COMBO - OVEN STEAMER<br>1 - BURNER RANGE<br>1 - TWO DOOR REFRIGERATOR<br>1 - TWO DOOR FREEZER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | 1 - DEMO TABLE W/ MIRROR<br>1 - HOSE/HANGER<br>3 COMPARTMENT SINK<br>1 - MOP SINK<br>1 - SERVICE FAUCET<br>• FLOOR DRAIN<br>• GENERAL COUNTER SPACE<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| 5b.1b | WALK-IN FREEZER/ REFRIGERATOR (1) | | | | • WALK-IN REFRIGERATOR/FREEZER BOX |
| 5b.1c | DRY FOOD STORAGE (1) | | • VARIOUS SIZE WIRE SHELVING<br>• CAN FLOOR RACK | • GENERAL WIRE SHELVING | |
| 5b.1d | CULINARY ARTS OFFICE (1) | • CENTRALLY LOCATED WITH GLASS FOR SUPERVISION OF ALL SPACES. | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5b.1e | KITCHEN CUSTODIAL (1) | | | | 1 - MOP SINK<br>• FLOOR DRAIN<br>• SINK<br>• GENERAL COUNTER SPACE |
| 5b.1f | ELECTRICAL ROOM(1) | | | | • ELECTRICAL EQUIPMENT |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**HOSPITALITY AND TOURISM**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5b**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVEABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5b.1g | LAUNDRY ROOM (1) | | • LAUNDRY CARTS<br>• SHELVING FOR CLEANING PRODUCTS<br>• WALL RACK - MOPS<br>• BUCKET STORAGE | •STACKABLE WASHER/DRYER<br>1 - LARGE CAPACITY DRYER<br><br>1 - 3.8 CU. FT. CAPACITY WASHER | •MOP SINK<br>• GENERAL COUNTER SPACE<br>• FLOOR DRAIN |
| 5b.1h | CULINARY ARTS LOCKERS/TOILETS (2) | • ACCESS LOCKERS FROM CLASSROOM ONLY | • LOCKERS | | • FLOOR DRAINS<br>• TOILETS<br>• SINKS |
| 5b.1i | CULINARY ARTS CLASSROOM (1) | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • TACK BOARDS<br>• MARKER BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| 5b.1j | CULINARY ARTS DINING AREA (RESTAURANT) | | 1 - PORTABLE HOT FOOD TABLE<br>1 - PORTABLE SALAD BAR<br>1 - BUFFALO CHOPPER<br>1 - BEVERAGE TABLE<br>1 - TABLE SKIRTING<br>120 - BANQUET CHAIR<br>12 - BANQUET TABLE<br>1 - CHINA SERVICE FOR 120 CUSTOMERS<br>4 - STAINLESS STEEL UTILITY CART | 1 - REFRIGERATED DISPLAY CASE<br>1 - UNDER COUNTER REFRIGERATOR<br>1 - UNDER COUNTER FREEZER<br>1 - MODULAR ICE MAKER<br>1 - RADIANT CHAR GRILL | |
| 5b.1k | RESTAURANT REST ROOMS (2) | | | | • TOILETS<br>• SINKS<br>• FLOOR DRAIN |
| 5b.2 | HOSPITALITY AND SERVICES CLASSROOM (1) | • HOSPITALITY CLASSROOM CAN BE SEPARATE FROM CULINARY ARTS | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • MARKER BOARDS<br>• TACK BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**INFORMATION TECHNOLOGY**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5c**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5c.1a | CISCO 1,2,3,4 LABORATORY/ CLASSROOM (2) INCLUDES: TEACHING AND FABRICATION FIBRE OPTICS, COMPUTER LAB FOR CISCO, AND LAB FOR BUILDING LAN | • 100 TO 125 FC LIGHTING REQUIRED FOR FABRICATION<br>• 10 OFFICE TYPE CUBICLES FOR SMALL LAB<br><br>• 12' CEILING (COMPUTER LAB)<br>• ACOUSTICALLY TREATED<br>• CONTROLLABLE NATURAL LIGHT<br>• OPEN AND FLOWING<br>• PROVIDE QUITE HVAC | TEACHING AND FABRICATION | | |
| | | | 10 - STUDENT TABLES<br>24 - TASK CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • MARKER BOARDS<br>• TACK BOARDS<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| | | | FIBER OPTICS | | |
| | | | • FIBER OPTICS EQUIPMENT FOR TRAINING | | |
| | | | COMPUTER LAB | | |
| | | | • 20 COMPUTER MONITORS | 10 - WORKSTATIONS, MOVEABLE TABLES (2 STUDENTS/ STATION) | • COMPUTER LAB CASEWORK |
| | | | SIMULATED OFFICE AREA | | |
| | | | • FLEXIBLE OFFICE FURNITURE<br>• TASK CHAIRS | • COMPUTERS<br>• PHONES | |
| | | | LAN BUILDING LAB | | |
| | | | | • NETWORKING EQUIPMENT RACK (SMALL LAB) | • 8' ACCESSIBLE CEILING ABOVE (INSTRUCTION ZONE) FOR SMALL LAB<br>• ACCESS FLOOR BELOW SPACE FOR SMALL LAB |
| | | | GENERAL EQUIPMENT | | |
| | | | | • TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| 5c.1b | CISCO NETWORKING RACKS EQUIPMENT TRAINER(1) | | | • EQUIPMENT RACKS FOR TRAINING<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD |
| 5c.1c | CISCO STORAGE(1) | | • VARIOUS SIZED METAL SHELVING<br>• SOFTWARE STORAGE | | |
| 5c.1e | CISCO LOCKER/ TOILET ROOM(2) | | | | • FLOOR DRAINS<br>• TOILETS<br>• SINKS<br>• LOCKERS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**INFORMATION TECHNOLOGY**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5c**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5c.2a | COMPUTER SYSTEMS TECHNOLOGY LABORATORY/ CLASSROOM(1) | • ERGONOMIC SEATING<br>• ABILITY TO MANAGE ROOM LIGHTING, DIMMING, AND GLARE CONTROL INDIRECT LIGHTING<br><br>• ACOUSTICALLY TREATED | 4 - DIGITAL CAMERAS<br>10 - STUDENT TABLES<br>24 - TASK CHAIRS | 20 - LAPTOPS W/CD, DVD DRIVES<br>20 - DELL WORKSTATIONS<br>4 - HP DESKJET PRINTER<br>1 - LASER COLOR<br>1 - B/W LASER<br>• WIRELESS ACCESS POINT<br><br>4 - LCD MONITOR<br>• DELL SERVER<br>• SWITCHES/ROUTERS<br>• PLASMA TV<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>• TACK BOARDS<br>• SINK/WATER FOUNTAIN<br>• MARKER BOARDS |
| 5c.2b | CST TEXTBOOK/ SOFTWARE STORAGE(1) | | • VARIOUS SIZED METAL SHELVING | | |
| 5c.2c | CST HARDWARE STORAGE(1) | | • VARIOUS SIZED METAL SHELVING | | |
| 5c.3a | INFORMATION SECURITY LAB (1) | | 20 - TASK CHAIRS | • TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>• TACK BOARDS<br>• MARKER BOARDS<br>• COMPUTER CLASSROOM CASEWORK LAYOUT |
| 5c.3b | INFORMATION TECHNOLOGY COMPUTER LAB (1) | | 20 - TASK CHAIRS | • TEACHERS A/V MULTIMEDIA COMPUTER STATION<br>20 - WIRELESS NOTEBOOK COMPUTERS WITH CARTS | • COMPUTER CLASSROOM CASEWORK LAYOUT<br>• TEACHERS BUILT-IN WORKSTATION<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>• TACK BOARDS<br>• MARKER BOARDS<br>• TRAINERS<br>• EQUIPMENT RACKS<br>• ROUTERS |
| 5c.4 | INFORMATION TECHNOLOGY OFFICE SUITE (1) | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.1a | HVAC & ELECTRICAL LAB (1) | • GLASS WALL BETWEEN<br>• OPEN TRAINING AREA WITH WORKSTATIONS AND LARGE TRAINER<br>• SHEET METAL BUILDING<br>• 12' WIDE OH DOOR<br>• STORAGE FOR BOOKS AND TRAINING AIDES | SIMULATED TRAINING AREA FOR DESIGN AND INSTALL | | |
| | | | • 600 SQ FT SIMULATED LIVING AREA<br>• VARIOUS HOME FURNISHINGS | | • SIMULATED TRAINING AREA TO INCLUDE KITCHEN/BATHROOM/LIVING ROOM/DINING ROOM FOR DESIGN AND INSTALLATION WITH WATER SUPPLY, OUTSIDE DRAIN AND VENTS TO OUTSIDE |
| | | | SPLIT SYSTEM TRAINING AREA | | |
| | | | | 6 - SPLIT SYSTEM TRAINING UNITS | |
| | | | TWO STORY TRAINING PLATFORM FOR PLUMBING AND ECLECTIC | | |
| | | | | | • ELECTRIC TRAINING AREA TO HAVE 3 PANELS |
| | | | WELDING AND BRAZING AREA | | |
| | | | • TOTAL WELDING BRAZING AREA 6' X 12'<br>• DIVIDERS BETWEEN STATIONS, FOLDING SIDES ON ENDS | | • FOUR STATION DOWNDRAFT TABLE 8' X 6'<br>• VENTED WELDING BOOTH 4' X 6'<br>• EACH STATION HAS LIGHT, RECEPTACLE, AND DOWNDRAFT VENTILATION/FILTER SYSTEM, SYSTEM TO BE VENTED OUTDOORS |
| | | | SHEET METAL BUILDING AREA | | |
| | | | | • SHEET METAL TABLE 5' X 14' | |
| | | | OPEN TRAINING AREA W/ WORKSTATIONS | | |
| | | | • VCR | • PLUMBING TRAINING AREA TWO STORY PLATFORM<br>1 - POWER SHEAR<br>6 - TABLE TOP TRAINERS TAKES 4' OF TABLE EA. | • PROVIDE POWER FROM DROPS AND FLOOR<br>• SINK<br>• EYEWASH<br>• CHILLER<br>• COOLING TOWER |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.1a | CONTINUED | | | 3 - SMALL TRAINERS 76"H X 64"W X 30"D ON WHEELS IN CENTER OF LAB<br>1 - PITTSBURG MACHINE<br>1 - LARGE TRAINER 70"H X 88"W X 31"D ON WHEELS IN CENTER OF LAB<br>1 - POWER BREAK<br>• MILLER MIG WELDER<br>• MILLER ARC WELDER<br>10 - AC OR HEAT PUMPS<br>10 - INDOOR UNITS<br>8 - SPLIT SYSTEMS<br>3 - HVAC TRAINERS REQUIRE PLUMBING AND VENTILATION<br>4 - ELECTRICAL TRAINERS<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION<br>• ENERGY MANAGEMENT SYSTEM W/COMPUTER | 4 - VAV BOXES<br>4 - DOWNDRAFT TABLE<br>• PROJECTOR AND SCREEN<br>• DOWN DRAFT VENTILATION SYSTEM<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| | | | GAS AND OIL AREA | | |
| | | | • ADJACENT OUTDOOR OIL AND PROPANE STORAGE | 5 - GAS FURNACES<br>5 - OIL FURNACES<br>2 - GAS HOT WATER<br>2 - OIL BOILERS<br>1 - GAS BOILER<br>• GAS AND OIL TRAINING SYSTEMS | |
| 5d.1b | HVAC & ELECTRICAL CLASSROOM (1) | • GLASS BETWEEN CLASSROOM AND LAB | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5d.1c | HVAC & ELECTRICAL TOOL ROOM | | • VARIOUS SIZED METAL SHELVING | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.1d | HVAC ELECTRICAL (PANEL BOARDS/ TRANSFORMER) ROOM | | | | • PANEL BOARDS<br>• TRANSFORMER |
| 5d.2a | BUILDING CONSTRUCTION LAB | • NATURAL LIGHT | • NAIL GUN<br>• CIRCULAR SAW<br>• BISCUIT JOINER<br>• CABINET STORAGE | 1 - TABLE SAW<br>1 - 24' BAND SAW<br>1 - 20' PLANER<br>1 - 8' JOINTER<br>1 - COMBINATION SANDER<br>1 - DRILL PRESS<br>1 - PANEL SAW<br>1 - ROUTER TABLE<br>1 - DRUM SANDER<br>2 - JIG SAW<br>1 - SANDER<br>1 - RECIP. SAW<br>1 - CONTRACTOR TABLE SAW<br>1 - MITER SAW<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION<br>1 - ROUTER | • DUST COLLECTION SYSTEM<br>• FILTRATION SYSTEM<br>• LCD PROJECTION SCREEN<br>• DOWNDRAFT SANDING STATION<br>• SMARTBOARD<br>• POWER FROM DROPS AND FLOOR<br>• SINK<br>• EYEWASH<br>• CEILING MOUNTED LCD PROJECTOR<br>• COMPRESSED AIR FEEDS |
| 5d.2b | BUILDING CONSTRUCTION CLASSROOM | • PROVIDE ACOUSTIC AND DUST SEPARATION FROM LAB | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5d.2c | BUILDING CONSTRUCTION TOOL ROOM | | • VARIOUS SIZED METAL SHELVING<br>• TOOL BOXES | | |
| 5d.2d | FINISHING ROOM | | • PAINT SPRAYERS | | • VENTILATION<br>• FLOOR DRAIN<br>• SINK |
| 5d.2e | PAINTS AND STAINS STORAGE | | • VARIOUS SIZED METAL SHELVING<br>• FLAMMABLE STORAGE CABINETS | | |
| 5d.2f | LUMBER STORAGE | | • RACKS TO STORE LUMBER | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.3a | MASONRY LAB | • 18' VERTICAL CLEARANCE<br>• 12' W OH DOOR<br>• 20 "MASONRY CORNERS" IN CENTER OF LAB 9' X 9' CLEAR | • SAND BIN 12' X 12'<br>• WET SAW " SAFETY ZONE" 8' X 8'<br>• MIXER " SAFETY ZONE" 10' X 8' | 6 - LITTLE HOUSE WORKSTATIONS. 32' X 18' CLEAR AREA, ATTACHED TO PERIMETER WALLS.<br>• FLOOR DRAIN<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • SINK<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 5d.3b | MASONRY CLASSROOM | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5d.3c | MASONRY TOOL ROOM | | • VARIOUS SIZED METAL SHELVING<br>• TOOL BOXES | | |
| 5d.4a | WELDING CLASSROOM/LABS | • CLERESTORY LIGHTING<br>• COVERED OUTDOOR BOTTLE GAS STORAGE: 25 - BOTTLES, 8 - MANIFOLDS. 30 MIN. SEPARATION BETWEEN FLAMMABLES. | WELDING CLASSROOM | | |
| | | | • 600 SQ FT LOCATED IN THE LAB<br>20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| | | | WELDING LAB | | |
| | | | 100 - WELDING CABLE<br>20 - CABLE LUG<br>10 - GROUND CLAMP<br>150 WELDING CABLE<br>20 - CABLE LUG | 10 - WELDING BOOTHS<br>1 - HYDRAULIC SHEAR<br>1 - PRESS BREAK<br>10 - TIG/STICK WELD<br>10 - TORCH PACKAGE<br>10 - ELECTRODE HOLDER<br>1 - WELDING BOOTH<br>10 - REGULATOR/ FLOW<br>1 - IRON WORKER<br>4 - WELDER SHOP MASTER 460 V<br>10 - MIG MILLER 208V<br>1 - MIG OSAB 250 V<br>1 - MIG MILLER 135V | • PULL DOWN POWER 30 TO 40 DROPS<br>10 - FOOT CONTROL<br>8 - GAS MANIFOLDS<br>• SINK<br>• EYEWASH<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.4a | CONTINUED | | | • PLASMA ESAB 650 208V<br>• PLASMA MASTER PAK 100 208V<br>3 - WELDER GOLD STAR 460V<br>3 - WELDER MILLER 460 V<br>4 - WELDER AIRCO BUMBLE BEE 460V<br>1 - DRILL PRESS 120V<br>1 - BAND SAW 120V<br>• OXAUST 120V<br>• MILLER SPOT WELDER 220V<br>1 - CUTTING BOOTH, 6' X 6' CURTAIN ALONG OUTSIDE WALL<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | |
| 5d.4b | WELDING TOOL ROOM | | • VARIOUS SIZED METAL SHELVING<br>• TOOL BOXES | | |
| 5d.4c | WELDING CLEAN STORAGE | • 24' L X 12'W | • VARIOUS SIZED METAL SHELVING | | |
| 5d.4d | WELDING ELECTRICAL ROOM | | | | • PANEL BOARDS<br>• TRANSFORMER |
| 5d.5a | CIED CLASSROOM AND LAB | | 22 - TASK CHAIRS | 10 - WORKSTATIONS (4 WORKSTATIONS TO BE CADD)<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • SINK<br>• TEACHERS BUILT-IN WORK STATION<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 5d.5b | COMPUTER INTEGRATED ENGINEERING AND DESIGN OFFICE | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5d.5c | CIED HARDWARE STORAGE | | • VARIOUS SIZED SHELVING | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENGINEERING AND CONSTRUCTION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5d.6a | HVAC/WELDING LOCKERS/ TOILETS/ SHOWERS | | • LOCKERS | | • SHOWERS<br>• TOILETS<br>• SINKS<br>• FLOOR DRAINS |
| 5d.6b | ENGINEERING AND CONSTRUCTION OFFICE SUITE (2) | • SHARED OFFICE SUITE BETWEEN HVAC AND WELDING | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5d.6c | BUILDING CONSTRUCTION/ MASONRY LOCKERS/ TOILETS/ SHOWERS | | | | • SHOWERS<br>• TOILETS<br>• SINKS<br>• FLOOR DRAINS<br>• LOCKERS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**TRANSPORTATION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5e**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5e.1a | AUTO SERVICING TECHNOLOGY LAB 10 BAY) | • INTERCEPTORS FOR GREASE AND OIL<br><br>• FLAMMABLE STORAGE ROOM INSIDE LAB<br>10 - BAYS, 2 STUDENTS PER BAY, TOOLBOXES AT THE BAY, ABOVE GROUND LIFTS. TWO BAYS AN ISOLATION ROOM FOR HYBRIDS (SAFETY ISSUES) | • TOOLBOXES EACH BAY | 1 - TIRE CHANGER<br>• ENGINE ANALYZER<br>1 - BEAD BLASTER<br>2 - GRINDERS<br>• BREAK LATHE<br>1 - HIGH PRESSURE WASHER<br>1 - ALL - WHEEL DRIVE DYNO (4 WHEEL DRIVE)<br>1 - SCREW AIR COMPRESSOR<br>• WIRELESS COMPUTER STATION FOR EACH BAY<br><br>10 - TRAINING SET BOARDS<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | 10 - 9,000 LBS HYDRAULIC IN GROUND LIFT S (EA TO HAVE OVER HEAD AIR, WATER, ELECT)<br>• O/H COMPRESSED AIR REEL (1 PER BAY)<br>• EYEWASH<br>• SINK<br>• ONE BAY IS THE DYNAMOMETER, ISOLATED ROOM, CRASH RESISTANT, CHAIN HOLD DOWNS, VENTILATION.<br>• ELECTRIC IN GROUND EXHAUST 1 PER BAY<br>1 - EXHAUST REMOVAL (AIR LINES, WATER LINES)<br><br>1 - WHEEL BALANCING MACHINE<br>1 - 4 WHEEL ALIGNMENT MACHINE<br>10 - OIL CHANGING STATIONS TO INCLUDE SWING-OUT ARMS WITH PLUMBING & A FUNNEL FOR OIL<br>• TWO OF THE BAYS SAFE ROOM FOR HYBRID VEHICLES<br>• ELECTRIC CRANE TO BRING MATERIAL INSIDE<br>• ELECTRIC PUMP STATION FOR LIQUIDS<br>10 - GREASE STATIONS<br>• NATURAL GAS STATION<br>• ALTERNATIVE FUELS STATION<br>2 - HIGH PRESSURE WATER REELS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**TRANSPORTATION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5e**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5e.1a | CONTINUED | | | | • 500 GAL BULK OIL STORAGE TANK<br>• 250 GAL BULK WASHER FLUID STORAGE<br>• 250 GAL WASTE COOLANT STORAGE<br>2 - WALL MOUNTED HIGH PRESSURE WATER REELS<br>• O/H HIGH PRESSURE WATER BOOM<br>• O/H ATF REEL (1 PER 2 BAYS)<br>• O/H NEW OIL REEL (1 PER BAY)<br>• EVACUATION PUMP STATION (1 WASTE OIL, 1 WASTE COOLANT)<br>• O/H WASHER REEL (1 PER 2 BAYS)<br>• ATF BULK STORAGE TANK 250 GAL<br>• VACUUM SYSTEM<br>• O/H TECHNICIAN LIGHT REEL (1 PER BAY)<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARDS<br>• MARKER BOARDS |
| 5e.1b | AUTO SERVICING TECHNOLOGY CLASSROOM | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | • WIRELESS NOTEBOOK CARTS WITH 30 NOTEBOOK COMPUTERS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**TRANSPORTATION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5e**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5e.1c | AST PARTS STORAGE | | • VARIOUS SIZED METAL SHELVING | | |
| 5e.1d | AST STORAGE | | • VARIOUS SIZED METAL SHELVING | | |
| 5e.1e | AST TOOL STORAGE | | • VARIOUS SIZED METAL SHELVING<br>• TOOL BOXES | | |
| 5e.1f | AST SHOP MANUAL LIBRARY | • ACCESS FROM LAB AND CLASSROOM | • VARIOUS SIZED METAL SHELVING | | • GENERAL CASEWORK W/ COUNTER SPACE |
| 5e.2a | COLLISION REPAIR TECHNOLOGY LAB | • GLASS WALL EVERYWHERE POSSIBLE<br>• EASY LINER IN ONE BAY<br>• SEPARATE ALUMINUM FROM STEEL<br>• GLASS WALL EVERYWHERE POSSIBLE | | • TEACHERS A/V MULTIMEDIA COMPUTER STATION | 10 - 11 - BAYS<br>1 - AUTO RACK<br>1 - ACCUDRAFT DOWN DRAFT PAINT BOOTH<br>1 - FRAME MACHINE<br>1 - FRAME MEASURING SYSTEM<br>• FRAME EQUIPMENT STORAGE<br>5 - WELDING BOOTHS<br>• ROTARY ELEC. LIFT<br>• FLOOR DRAIN<br>• EYEWASH<br>• SINK<br>• VACUUM SYSTEM<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5e.2b | COLLISION REPAIR TECHNOLOGY CLASSROOM | • GLASS INTO LAB | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5e.2c | CRT REFERENCE ROOM/ TEACHING AIDS | • TO STORE TEACHING AID, VIDEO, ETC W/ DOOR INTO CLASSROOM | • VARIOUS SIZED SHELVING<br>• SMALL TABLE<br>• CHAIR | | • GENERAL CASEWORK W/ COUNTER SPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**TRANSPORTATION**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5e**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5e.2d | EQUIPMENT STORAGE | • OVERSIZED DOOR | • VARIOUS SIZED METAL SHELVING | | |
| 5e.2e | CRT PAINT STORAGE/ ACCUDRAFT MIX ROOM | • FIREPROOFING<br>• GOOD VENTILATION IN MIX ROOM | • VARIOUS SIZED METAL SHELVING<br>• FLAMMABLE STORAGE CABINET | 4 - LAPTOP COMPUTER STATIONS | • VENTILATION |
| 5e.2f | DETAILING AND WASH BAY/DETAILING MATERIALS STORAGE | | • VARIOUS SIZED METAL SHELVING IN STORAGE | | |
| 5e.2g | COLLISION REPAIR TOOL STORAGE | • HALF DOOR | • VARIOUS SIZED METAL SHELVING IN STORAGE | | |
| 5e.3a | AST/COLLISION REPAIR TECHNOLOGY INSTRUCTOR OFFICE SUITE | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS<br>• FILE CABINETS | • COMPUTERS<br>• PHONES | |
| 5e.3b | AST/COLLISION REPAIR PROGRAM SHARED LOCKERS/ SHOWER/TOILET | | | | • SHOWERS<br>• TOILETS<br>• SINKS<br>• FLOOR DRAINS<br>• LOCKERS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**COMMUNICATIONS**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5f**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5f.1a | GRAPHIC COMMUNICATIONS PRODUCTION LAB | • LAB AND PRODUCTION TO HAVE ACOUSTIC SEPARATION<br>• CEILING HEIGHT 12' CLEAR<br>• STORAGE SPACE FOR PAPER ON SKIDS AND SHELVES<br>• DIVISION BETWEEN PRODUCTION AREA AND GRAPHIC DEPT. SOUND BARRIER YET VISUAL ACCESS | • SCANNERS<br>• LARGE CUTTER(208V)<br>2 - COLLATORS<br>• BINDER 8 PAGE 3 HOLE DRILL | 5 - PC'S FOR CROSS TRAINING<br>• (CPT) PLATE MAKER (COMPUTER TO PLATE)<br>• SERVERS/BACKUP<br>• RYOBI PRINTER<br>• HAMADA PRINTER<br>• 9910 PRINTER<br>• GT52-2 PRINTER<br>• 2-3 PROFESSIONAL SCANNERS<br>• DIGITAL PRESS (XEROX IGEN3)<br>• COLLATOR & SWITCHER<br>• PRESS 29" (HAVE)13" X 20" 2- COLOR GTO<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • FIXED COUNTER SPACE NEAR EQUIPMENT<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SINK<br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 5f.1b | PRODUCTION PRINTING OFFICE | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5f.1c | LOADING AREA | • 800SF<br>• ATTACHED TO PAPER STORAGE AREA<br>• SHOULD HAVE A HOLDING AREA, LOADING AREA, IN/OUT AREA | | | |
| 5f.1c.1 | PAPER STORAGE | • 600SF | • VARIOUS SIZED METAL SHELVING | | |
| 5f.1d | MATERIALS STORAGE | • STORAGE FOR INK, CHEMICALS, FLAMMABLE STORAGE CABINET<br>• MUST MEET OSHAWA REQUIREMENTS | • VARIOUS SIZED METAL SHELVING<br>• FLAMMABLE STORAGE CABINETS | | • GENERAL CASEWORK W/ COUNTERPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**COMMUNICATIONS**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5f**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5f.1a | GRAPHIC COMMUNICATIONS PRODUCTION LAB | • LAB AND PRODUCTION TO HAVE ACOUSTIC SEPARATION<br>• CEILING HEIGHT 12' CLEAR<br>• STORAGE SPACE FOR PAPER ON SKIDS AND SHELVES<br>• DIVISION BETWEEN PRODUCTION AREA AND GRAPHIC DEPT. SOUND BARRIER YET VISUAL ACCESS | • SCANNERS<br>• LARGE CUTTER(208V)<br>2 - COLLATORS<br>• BINDER 8 PAGE 3 HOLE DRILL | 5 - PC'S FOR CROSS TRAINING<br>• (CPT) PLATE MAKER (COMPUTER TO PLATE)<br>• SERVERS/BACKUP<br>• RYOBI PRINTER<br>• HAMADA PRINTER<br>• 9910 PRINTER<br>• GT52-2 PRINTER<br>• 2-3 PROFESSIONAL SCANNERS<br>• DIGITAL PRESS (XEROX IGEN3)<br>• COLLATOR & SWITCHER<br>• PRESS 29" (HAVE)13" X 20" 2- COLOR GTO<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • FIXED COUNTER SPACE NEAR EQUIPMENT<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• SINK<br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 5f.1b | PRODUCTION PRINTING OFFICE | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTER<br>• PHONE | |
| 5f.1c | LOADING AREA | • 800SF<br>• ATTACHED TO PAPER STORAGE AREA<br>• SHOULD HAVE A HOLDING AREA, LOADING AREA, IN/OUT AREA | | | |
| 5f.1c.1 | PAPER STORAGE | • 600SF | • VARIOUS SIZED METAL SHELVING | | |
| 5f.1d | MATERIALS STORAGE | • STORAGE FOR INK, CHEMICALS, FLAMMABLE STORAGE CABINET<br>• MUST MEET OSHAWA REQUIREMENTS | • VARIOUS SIZED METAL SHELVING<br>• FLAMMABLE STORAGE CABINETS | | • GENERAL CASEWORK W/ COUNTERPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**COMMUNICATIONS**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5f**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5f.2a | TELEVISION PRODUCTION STUDIO/ CLASSROOM | • ACCESS TO COMMON COMPUTER ROOM<br>• COLLABORATION WITH COMPUTER ANIMATION<br>• CEILING HEIGHT 16' TO 20'<br><br>• QUITE HVAC - ABILITY TO OVERRIDE HVAC | • TASK CHAIRS | • 16 SEAT AUDIO/VIDEO COMPUTER LAB W/UPS<br>• VIDEOTAPE MACHINE CORE W/UPS<br>• UPS FOR MAIN STUDIO<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • 48 CHANNEL LIGHTING CONSOLE<br>• ABILITY TO OVERRIDE MANAGEMENT SYSTEM TO COOL OR HEAT STUDIO<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5f.2b | TELEVISION PRODUCTION CONTROL/ EDITING ROOM | • ACOUSTICALLY QUIET | • TASK CHAIRS | 6 - CONTROL STATIONS<br>20 - EDITING CUBICLES<br>• RACKS<br>• MONITORS<br>• AUDIO CONSOLES | • ABILITY TO BROADCAST THROUGH OUT THE SCHOOL |
| 5f.2c | TELEVISION PRODUCTION SET STORAGE | • SET STORAGE | • VARIOUS SIZED METAL SHELVING | | |
| 5f.2d | TELEVISION PRODUCTION VIDEO EQUIPMENT STORAGE | | • VARIOUS SIZED METAL SHELVING | | • GENERAL LOCKABLE CASEWORK W/ COUNTERPACE |
| 5f.2e | AUDIO ROOM | | • TASK CHAIRS | | • AUDIO EQUIPMENT |
| 5f.2f | TELEVISION PRODUCTION CLASSROOM | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**COMMUNICATIONS**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5f**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5f.3a | COMPUTER AND DIGITAL ANIMATION LABORATORY | | 24 - TASK CHAIRS | 1 - CNC MILL<br>1 - 3D PRINTER<br>• POWER RECYCLING<br>1 - MILL CONVERTED TO CNC<br>1 - LATHE<br>1 - NEW CNC LATHE<br>• ROBOTICS SYSTEMS<br>• COMPUTER CONTROL<br>1 - HORIZONTAL BAND SAW<br>1 - PRESS<br>1 - SERVER<br>1 - SWITCH<br>1 - SCANNER<br>2 - PRINTERS<br>1 - LARGE FORMAT PRINTER<br>1 - DATA ACQUISITION MODULAR<br>1 - POLARISCOPE<br>1 - APPLIED MECHANISM<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • MECHANICAL SYSTEMS<br>• ELECTRICAL SYSTEMS<br>• ELECTRICAL CONTROL<br>• DNEUMATICS SYSTEMS<br>1 - BUILT-IN TEACHERS STATION<br>20 - COMPUTER WORKSTATIONS/MODULES<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5f.3b | COMPUTER AND DIGITAL ANIMATION STORAGE | STORAGE FOR LARGE PIECES OF METAL, TOOLS, SOFTWARE, BOOKS, ETC. | • VARIOUS SIZED METAL SHELVING | | • GENERAL CASEWORK W/ COUNTERPACE |
| 5f.4 | TELEVISION PRODUCTION AND COMPUTER AND DIGITAL ANIMATION OFFICE SUITE | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS<br>• FILE CABINETS | • COMPUTERS<br>• PHONE | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENVIRONMENTAL SCIENCES AND TECHNOLOGY**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5g**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5g.1a | RETAIL GREENHOUSE(1) | • 150' X 125'<br>• CAFÉ<br>• INFO AREA | • REGISTERS<br>• DISPLAY BENCHES | • DISPLAY COOLER 6' X 15' | 2 - CHECK OUT LINES<br>• COLOR PAVERS FLOORING W/ DRAINAGE |
| 5g.1b | PRODUCTION GREENHOUSES(2) | • 75' X 50'<br>• NO SHADE OR OBSTRUCTION FROM SURROUNDING BUILDINGS, PLANTS, ETC. | • MOVABLE BENCHES | | • SEPARATE CLIMATE CONTROLS<br>• CONCRETE FLOOR W/ DRAINAGE<br>• AUTOMATIC SHADING SYSTEM<br>• FERTIGATION SYSTEM CAPABLE OF HANDLING ALL WATERING NEEDS<br>• MIST SYSTEM ON PROPAGATION BENCHES |
| 5g.1c | HOLDING/STOCK PLANT GREENHOUSE(1) | • NO SHADE OR OBSTRUCTION FROM SURROUNDING BUILDINGS, PLANTS, ETC.<br>• 50' X 30' | | | • CONCRETE FLOOR W/ DRAINAGE<br>• SEPARATE CLIMATE CONTROLS<br>• AUTOMATIC SHADING SYSTEM<br>• FERTIGATION SYSTEM CAPABLE OF HANDLING ALL WATERING NEEDS<br>• MIST SYSTEM ON PROPAGATION BENCHES |
| 5g.1d | ENVIRONMENTAL PROGRAM CLASSROOMS(1) | • TILE FLOORING<br>• OPERABLE WINDOWS | 4 - DRAFTING TABLES W/ LIGHTING | 10 - COMPUTERS W/ TABLE SPACE AND TECHNOLOGY ABLE TO ACCOMMODATE LANDSCAPE PRO AND HORTICOPIA PROFESSIONAL<br>• MATRIX PRINTER FOR BLUEPRINTS<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5g.1e | ENVIRONMENTAL PROGRAM OFFICES | | • BOOKSHELVES<br>• DESK<br>• TASK CHAIR | • COMPUTER<br>• PHONE | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENVIRONMENTAL SCIENCES AND TECHNOLOGY**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5g**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5g.1f | FLORAL PRODUCTION LAB | • CONCRETE FLOORS | • PRODUCTION TABLES | • TEACHERS A/V MULTIMEDIA COMPUTER STATION | • 4 - DEEP SINKS<br>• SHALLOW SINK AREA FOR SOAKING FOAM<br>• FLOOR DRAINS<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5g.1g | FLORAL PRODUCTION STORAGE | | • VARIOUS SIZED METAL SHELVING OR BUILT IN CASEWORK | | |
| 5g.1h | FLORAL PRODUCTION WALK-IN COOLER | • 25' X 20' | | | |
| 5g.1i | POTTING AREA | • CONCRETE FLOORS | • BENCHES<br>• SOIL STORAGE BINS | | • DEEP SINKS |
| 5g.1j | POTTING AREA STORAGE | | • VARIOUS SIZED SHELVING | | |
| 5g.1k | PESTICIDE STORAGE | • MIXING AREA | | | • LOCK UP STORAGE W/ DRAIN PAN<br>• VENTILATION<br>• WATER SOURCE<br>• FLOOR DRAINS<br>• EYEWASH STATION |
| 5g.1l | LATH AREA | • CONCRETE FLOORS | • MOVABLE BENCHES BY BENCHMASTER | | • FLOOR DRAINS<br>• WATER SOURCE CONNECTED TO INJECTOR SYSTEM |
| 5g.1m | OUTDOOR RETAIL NURSERY AREA | • FULL SUN<br>• PAVED AREAS<br>• PEA GRAVEL AREAS<br>• TABLE AREAS<br>• BED DISPLAY AREAS | | | • WATER SOURCE CONNECTED TO INJECTOR SYSTEM<br>• GOOD DRAINAGE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ENVIRONMENTAL SCIENCES AND TECHNOLOGY**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**5g**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 5g.1n | HEAVY EQUIPMENT GARAGE STORAGE | | | • TRACTOR<br>• FORKLIFT<br>• POWER MOWERS<br>• POWER EQUIPMENT SUCH AS BLOWERS, TRIMMERS, ETC. | • FLOOR DRAIN |
| 5g.1o | SMALL ENGINES REPAIR & MAINTENANCE/ TURF LAB | • CLASSROOM ADJACENT WITH COMPUTERS<br>• STORAGE | 20 - STOOLS<br>5 - SQUARE SMALL ENGINES WORK TABLES | • TEACHERS A/V MULTIMEDIA COMPUTER STATION | • FLOOR DRAIN<br>• SINK<br>• GENERAL CASEWORK W/ COUNTER SPACE FOR STORAGE<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5g.1p | SMALL ENGINES CLASSROOM | | 20 - STUDENT DESKS<br>24 - STUDENT CHAIRS | 4 - STUDENT COMPUTER STATIONS<br>• PRINTER<br>• TEACHERS A/V MULTIMEDIA COMPUTER STATION | • CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br>• TACK BOARDS<br>• SMARTBOARD<br>• MARKER BOARDS |
| 5g.1q | SMALL ENGINES STORAGE | | • VARIOUS SIZED SHELVING | | • FLOOR DRAIN |
| 5g.1r | SMALL ENGINES TOOL ROOM | | • VARIOUS SIZED SHELVING | | |
| 5g.1s | ENVIRONMENTAL PROGRAM LOCKERS/TOILETS/ SHOWERS | | • LOCKERS | | • SHOWERS<br>• TOILETS<br>• SINKS<br>• FLOOR DRAINS |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ADMINISTRATIVE SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6a.1a | GENERAL OFFICE/WAITING | | • VISITOR CHAIRS<br>• TASK CHAIRS<br>• DESKS<br>• BOOKCASES<br>• FILE CABINETS | • COMPUTERS<br>• PRINTERS<br>• COPIER<br>• TELEPHONES | • RECEPTION COUNTER |
| 6a.1b | PRINCIPAL'S OFFICE | | • DESK<br>• CREDENZA<br>• TASK CHAIR<br>• FILE CABINETS<br>• BOOKCASES<br>• SMALL CONFERENCE TABLE<br>• GUEST SEATING<br>• VISITORS CHAIRS | • COMPUTER<br>• PRINTER<br>• TELEPHONE | • TACK BOARD |
| 6a.1c | ASST. PRINCIPAL'S OFFICE | | • DESK<br>• CREDENZA<br>• TASK CHAIR<br>• FILE CABINETS<br>• BOOKCASES<br>• VISITORS CHAIRS | • COMPUTER<br>• PRINTER<br>• TELEPHONE | • TACK BOARD |
| 6a.1d | RECORDS VAULT | | • FILE CABINETS | | |
| 6a.1e | ATTENDANCE | | • TASK CHAIR | | • ATTENDANCE COUNTER |
| 6a.1f | PAPER STORAGE | | • VARIOUS SIZED METAL SHELVING | | |
| 6a.1g | ADMIN. STORAGE | | • VARIOUS SIZED METAL SHELVING | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ADMINISTRATIVE SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6a.1h | BOOKKEEPERS OFFICE | • STORAGE CLOSET WITH SHELVES<br>• MUST HAVE WINDOWS | • VISITORS CHAIR<br>6 - BOOKCASES<br>• DESK CHAIR<br>• ADDING MACHINE<br>• COIN COUNTER<br>• BILL COUNTER<br>• ELECTRIC STAPLER<br>• LAMP<br>• FAN<br>• RADIO/CHARGER<br>6 - FILE CABINETS<br>• DESK WITH CORNER SECTION TO ACCOMMODATE CARPAL TUNNEL KEYBOARD | • PRINTER<br>• COMPUTER | |
| 6a.2a | CLINIC WAITING | | • VISITOR CHAIRS<br>• FILE CABINET<br>• DESK<br>• TASK CHAIR | • COMPUTER<br>• PHONE | • LOCKABLE STORAGE<br>• TACK BOARD |
| 6a.2b | CLINIC EXAMINATION | | • VISITOR CHAIRS | • REFRIGERATOR | • LOCKABLE STORAGE<br>• TACK BOARD |
| 6a.2c | CLINIC TOILETS (2) | | | | • TOILET<br>• SINK<br>• GRAB BARS |
| 6a.2d | CLINIC REST AREAS(2) | | • COTS | | • LOCKABLE STORAGE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ADMINISTRATIVE SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6a.3 | CONFERENCE/ COFFEE ROOM | | • LARGE CONFERENCE TABLE<br>• CHAIRS | • A/V MULTIMEDIA COMPUTER STATION | • COFFEE COUNTER<br>• SINK<br>• MARKER BOARD<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br><br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 6a.4a | GUIDANCE WAITING | • CAREER CENTER COUNSELORS OFFICES AND CONFERENCE ROOM TO BE LOCATED IN SAME AREA | • CHAIRS FOR COMPUTER STATIONS<br>1 -2 - SOFAS<br>• DESK AND CHAIR FOR CAREER CENTER ASST.<br>• ROUND CONFERENCE/WORK TABLE W/CHAIRS<br>• REFERENCE HOLDERS | 4 - COMPUTERS /NETWORK<br><br>2 - COMPUTER/NETWORK<br>1 - PRINTER<br>• S - VIDEO | • TACK BOARDS<br>• TACK STRIPS<br>• CHALK BOARDS<br>• MARKER BOARDS<br>• PROJECTION SCREEN<br>• CASEWORK<br>2 - SINKS<br>MAP HOOKS<br>• ART TRAP<br>• DISPOSAL |
| 6a.4b | COUNSELOR OFFICE(2) | | • DESK WITH RETURN<br>• TASK CHAIR<br>• VISITOR CHAIRS<br>• FILE CABINETS<br>• BOOK SHELF | 2 - COMPUTERS / NETWORK<br><br>• DATA DROPS<br>• TELEPHONE | |
| 6a.4c | SPECIAL ED/ESL OFFICE | | • DESK<br>• TASK CHAIR<br>• VISITOR CHAIRS<br>• FILE CABINET | • COMPUTERS<br>• PRINTER<br>• TELEPHONE | |
| 6a.4d | COORDINATOR OFFICE | | • DESK<br>• TASK CHAIR<br>• VISITOR CHAIRS<br>• FILE CABINET | • COMPUTERS<br>• PRINTER<br>• TELEPHONE | |
| 6a.5a | MAIL/COPY/FACULTY WORK ROOM | | • COPIERS WITH COUNTER SPACE | • UNDER COUNTER REFRIGERATOR | • TEACHERS MAIL BOXES<br>• LOCKABLE CASEWORK W/ COUNTER SPACE<br>• SINK |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**ADMINISTRATIVE SERVICES**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6a**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6a.5b | FACULTY TOILETS(2) | | | | • TOILETS<br>• SINKS<br>• FLOOR DRAIN<br>• GRAB RAILS<br>• TOILET PARTITIONS |
| 6a.5c | FACULTY BREAK ROOM(1) | | • MICROWAVE<br>• TABLES<br>• CHAIRS | • REFRIGERATOR<br>• VENDING MACHINES | • LOCKABLE CABINETS<br>• SINK |
| 6a.6a | SECURITY SPECIALISTS(2) | | • DESK<br>• TASK CHAIR<br>• VISITOR CHAIRS<br>• FILE CABINET | • COMPUTERS<br>• PRINTER<br>• TELEPHONE | • SECURITY EQUIPMENT<br>• MONITORS |
| 6a.6b | DATA/COMM..... HEAD END | | | | • DATA COMMUNICATIONS EQUIPMENT |
| 6a.6c | IT TECH & SERVERS | | • DESK<br>• TASK CHAIR | • COMPUTER<br>• TELEPHONE | • CENTRAL SERVER |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**CUSTODIAL**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6b**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6b.1a | CUSTODIAL OFFICE (10 | | • DESK<br>• TASK CHAIR<br>• FILE CABINET | • COMPUTER<br>• TELEPHONE | |
| 6b.1b | CUSTODIAL TOILET/SHOWER (1) | | | | • TOILET<br>• SHOWER<br>• FLOOR DRAIN<br>• SINK |
| 6b.1c | CUSTODIAL SUPPLIES STORAGE (1) | | • VARIOUS SIZED METAL SHELVING | | |
| 6b.1d | JANITORS' CLOSET(6) | | • MOP HOLDER | | • MOP SINK<br>• WOOD SHELVING |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**MULTI-PURPOSE/COMMONS/FOOD SERVICE**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6c**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6c.1a | MULTIPURPOSE ROOM | | • CAFETERIA TABLES | | • PORTABLE PLATFORM<br>• TACK BOARDS |
| 6c.1b | FURNITURE/PORTABLE STAGE STORAGE | | | | |
| 6c.1d | KITCHEN/FOOD PREP | | | | • COMPLETE KITCHEN FACILITY<br>• FLOOR DRAIN |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**VOCATIONAL ASSESSMENT**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6d.1a | PHASE 1<br>ASSESSMENT (1) | • SPACE FOR INTERVIEWING, CAREER EXPLORATION, JOB SEEKING AND APTITUDE TESTING, SPECIAL POPULATIONS TESTING AREA<br>• LAB CLASSROOM SETTING | • STUDENT CHAIRS<br>• STUDENT DESKS<br>• TABLES | 1 - COMPUTERS | • MODULAR TYPE CASEWORK AS IN A TECH |
| 6d.1b | PHASE 2<br>ASSESSMENT (1) | | HORTICULTURE - FLORAL DESIGNER 14 X 20 | | |
| | | | | • TV<br>• VCR<br>• COMPUTER | • SINK<br>• SMALL ATTACHED GREENHOUSE<br>• STORAGE CASEWORK<br>• MINI DISPLAY COOLER |
| | | | BUSINESS & MARKETING - 20 X 28 | | |
| | | | CASHIER/TELLER/CLERK<br>OFFICE SERVICES<br>BASIC DATA ENTRY<br>SALES PROCESSING<br>GENERAL OFFICE<br>ACCOUNTING | 3 - VCRS<br>3-TVS<br>2 - COMPUTERS | • 8 X 8 WORK AREA FOR SALES PROCESSING<br>• 12 X 12 OFFICE SUITE DESKS W/COMPUTER ACCESS<br>• 8 X 8 HALF MOON WORKSTATIONS FOR GENERAL OFFICE SKILLS |
| | | | COMMUNICATIONS: ART AND MEDIA 20 X 40 | | |
| | | | GRAPHIC DESIGN<br>DRAFTING<br>INTERIOR DESIGN<br>AVID CINEMA (TV PRODUCTION)<br>COMPUTER AIDED DRAFTING | 3 - VCRS<br>3-TVS<br>4 - COMPUTERS | • L SHAPED WORK STATIONS W/ LAYOUT SPACE AND SPACE TO WORK WITH ASSISTANCE. |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**VOCATIONAL ASSESSMENT**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6d.1b | CONTINUED | | ENGINEERING INDUSTRIAL TECHNOLOGY 20 X 40 | | |
| | | | • CREATING A PATCH CORD CAT 5 - VCR<br>• AIR CONDITIONING - VCR<br>• MASONRY (BRICKLAYING) - VCR<br>• ELECTRICIAN - VCR<br>AUTO BODY REPAIR - **PAINT BOOTH WITH EXHAUST**<br>• WOODWORKING - **PERMANENT VICE**<br>• AUTO SERVICE MECHANIC<br>• CIRCUIT TECHNOLOGY<br>• SHEET METAL - **BRAKE MOUNTED TO THE FLOOR**<br>NOTES: FLOOR SURFACE THAT WILL WITH STAND STAINS, MORTAR MIX, SOLDER, BODY FILLER. GENERAL NEEDS FOR THIS AREA INCLUDE **SINK** FOR WATER AND WASHING TOOLS, **DUST COLLECTOR**<br>• ALL AREAS TO INCLUDE A VCR AND TV<br><br>• EACH AREA SHOULD HAVE 4 X 4 WORK SURFACE | | |
| | | | HEALTH, HUMAN & PUBLIC SERVICES 20 X 40 | | |
| | | | COSMETOLOGY<br>COOK & BAKER<br>FOOD SERVICE CATERER<br>MEDICAL SERVICE<br>COSMETOLOGIST<br>HEALTH CARE OCCUPATIONS<br>MANICURING<br>CRIMINOLOGY | 4 - COMPUTERS<br>4 - VCRS<br>1 - DVD | • SINK W/ HOT COLD WATER<br>• EFFICIENCY KITCHEN<br>• BOTH STATIONS NEED LARGE WORK AREAS TO SPREAD OUT TOOLS AND EQUIPMENT |
| | | | MISCELLANEOUS REQUIREMENTS FOR PHASE II | | |
| | | | • COMPONENT WORK SAMPLES. 7 STATIONS 10 X 20 | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**VOCATIONAL ASSESSMENT**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6d**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6d.1c | VOCATIONAL ASSESSMENT OFFICE (2 STATIONS) | | • BOOKSHELVES<br>• DESKS<br>• TASK CHAIRS | • COMPUTERS<br>• PHONES | |
| 6d.1d | VOCATIONAL ASSESSMENT STORAGE (2) | | • FLAMMABLE SAFETY CABINET<br>• METAL SHELVING<br>• LOCKABLE FILE CABINETS | | |
| 6d.1e | HANDICAP TOILET(1) | | | | • SINK<br>• TOILET<br>• GRAB BARS<br>• DRAIN |
| 6d.1f | INSTRUCTOR TOILET (1) | | | | • SINKS<br>• TOILETS<br>• GRAB BARS<br>• DRAIN |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**TEXTBOOK STORAGE**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6e**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6e.1a | TEXT BOOK STORAGE/COPIER | | • COPIER | | • FIXED OR METAL SHELVING |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**STUDENT STORAGE**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6f**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6f.1 | AV STORAGE | | | | • LOCKABLE FIXED AND METAL SHELVING |
| 6f.2 | ADULT ED STORAGE | | | | • LOCKABLE FIXED AND METAL SHELVING |
| 6f.3 | STUDENT LOCKERS(1000) | | | | |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**PUBLIC USE**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6g**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6g.1 | PUBLIC TOILETS WOMEN (2) | | | | • SINKS<br>• TOILETS<br>• FLOOR DRAINS<br>• PARTITIONS |
| 6g.2 | PUBLIC TOILETS MEN (2) | | | | • SINKS<br>• TOILETS<br>• URINALS<br>• FLOOR DRAINS<br>• PARTITIONS |
| 6g.3 | VENDING/LOUNGE(1) | | • VENDING MACHINES<br>• TABLES<br>• CHAIRS<br>• MICROWAVE | | • GENERAL CASEWORK W/ COUNTERSPACE |

**MONROE ADVANCED TECHNOLOGY ACADEMY**
**CAREER RESOURCE/LIBRARY/MEDIA CENTER**
**EQUIPMENT SCHEDULE**

PROGRAM CLUSTER
**6h**

| DESIGN CODE | SPACE NAME | ARCHITECTURAL REQUIREMENTS | MOVABLE EQUIPMENT - MINOR | MOVABLE EQUIPMENT - MAJOR | FIXED EQUIPMENT |
|---|---|---|---|---|---|
| 6h.1a | CAREER RESOURCE CENTER | | • TASK CHAIRS | • COMPUTERS<br>• A/V MULTIMEDIA COMPUTER STATION | • COMPUTER LAB CASEWORK<br>• BOOKCASES<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br><br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 6h.1b | LIBRARY | | • TABLES<br>• CHAIRS<br>• COMPUTER TABLES | • COMPUTERS<br>• PRINTERS<br>• A/V MULTIMEDIA COMPUTER STATION | • BOOKCASES<br>• CHECK OUT COUNTER<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br><br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |
| 6h.1c | AV STORAGE | | • METAL SHELVING | | |
| 6h.1d | LIBRARY OFFICE/WORK ROOM | | • DESKS<br>• TASK CHAIRS<br>• TABLE<br>• COPIER<br>• CHAIRS | | • CASEWORK<br>• SINK<br>• TACK BOARDS |
| 6h.1e | GUIDANCE DEPARTMENT | | • DESKS<br>• TASK CHAIRS<br>• GUEST CHAIRS<br>• BOOKCASES<br>• FILE CABINETS | | • TACK BOARDS<br>• RECEPTION COUNTER |
| 6h.1f | GENERAL COMPUTER LAB | | • TASK CHAIRS | • COMPUTERS<br>• PRINTERS<br>• A/V MULTIMEDIA COMPUTER STATION | • COMPUTER LAB CASEWORK<br>• TEACHER WORK STATION<br>• CEILING MOUNTED LCD PROJECTOR<br>• LCD PROJECTION SCREEN<br><br>• SMARTBOARD<br>• MARKER BOARDS<br>• TACK BOARDS |

## FACILITY LIST

| | | | | | |
|---|---|---|---|---|---|
| DISTRICT: | LOUDOUN COUNTY | TOTAL STATIONS: | 500 | GROSS SQ. FT. | 217,113 |
| LEVEL: | 9-12 | STUDENT CAPACITY: | 500 X 2 shifts | UTILIZATION | 80 % |
| | | NET SQUARE FEET/STUDENT: 329 SF/STU. | | GSF/STU: | 404SF/STU. |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET UNIT | NET SQ. FEET TOTAL | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | GRAND TOTALS | | 164,505 | | 400 |
| 4a | | GENERAL CLASSROOMS AND LABS | | | | |
| 4a.1 | 1 | Computer Laboratory | 1150 | 1150 | 30 | N/A |
| 4a.2 | 1 | Distance Learning Lab/Group Meeting | 1500 | 1500 | | |
| 4a.3a | 1 | General Classroom | 1600 | 1600 | | |
| | | SUBTOTAL General Classrooms and Labs | | 4,250 | | N/A |
| | | | | | | |
| 5a | | HEALTH & HUMAN SERVICES | | | | |
| 5a.1a | 2 | LPN Classrooms I & II | 900 | 1800 | 20 | 40 |
| 5a.1b | 1 | LPN Skills Lab | 1150 | 1150 | 20 | N/A |
| 5a.1c | 1 | LPN Program Office Suite | 400 | 400 | N/A | N/A |
| 5a.1d | 1 | Skills Lab Storage | 150 | 150 | N/A | N/A |
| 5a.1e | 1 | LPN Program Equipment Storage | 150 | 150 | N/A | N/A |
| 5a.1f | 1 | LPN Program Handicap Toilet | 80 | 80 | N/A | N/A |
| 5a.1g | 3 | Healthcare Classrooms | 750 | 2250 | 20 | 60 |
| 5a.2a | 3 | Healthcare/Lab Tech Lab | 1150 | 3450 | 20 | N/A |
| | | *********NEW PROGRAM********** | | | | |
| 5a.2b | 1 | Lab Tech Office Suite | 300 | 300 | N/A | N/A |
| 5a.2c | 1 | Handicap Toilet | 80 | 80 | N/A | N/A |
| 5a.2d | 1 | Lab Tech Storage | 150 | 150 | N/A | N/A |
| | | | | | | |



| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET UNIT | NET SQ. FEET TOTAL | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| 5a.3a | 1 | Administration of Justice Classroom/Lab<br>**CURRENTLY IN 800SF TRAILER* | 1150 | 1150 | 20 | 20 |
| 5a.3b | 1 | AoJ Program Storage | 150 | 150 | N/A | N/A |
| 5a.4a | 1 | Physical Training Room (shared)<br>*******NEW SHARED FACILITY FOR JOINT PROGRAM********** | 1600 | 1600 | 20 | N/A |
| 5a.4b | 1 | AoJ Forensic Lab | 800 | 800 | 20 | N/A |
| 5a.5a | 1 | Firefighter 1/ EMT Classroom/Lab<br>**********NEW PROGRAM********** | 750 | 750 | 20 | 20 |
| 5a.5b | 1 | Simulated Training Area | 600 | 600 | N/A | N/A |
| 5a.5c | 1 | Firefighter Program Storage | 150 | 150 | N/A | N/A |
| 5a.5d | 1 | Vehicle Shelter | 1000 | 1000 | 20 | N/A |
| 5a.5e | 1 | AoJ Program Storage | 150 | 150 | N/A | N/A |
| 5a.5f | 1 | AoJ / Firefighter Office Suite | 200 | 200 | N/A | N/A |
| 5a.5g | 2 | AoJ/Firefighter Locker/Toilets/Shower | 550 | 1100 | N/A | N/A |
| 5a.5h | 1 | AoJ/Firefighter Laundry | 100 | 100 | N/A | N/A |
| 5a.6a | 2 | Cosmetology/Nail Design Laboratory | 2400 | 4800 | 20 | 40 |
| 5a.6b | 1 | Cosmetology/Nail Design Classroom | 600 | 600 | 20 | N/A |
| 5a.6c | 2 | Dispensary | 400 | 800 | N/A | N/A |
| 5a.6d | 2 | Cosmetology/Nail Design Lockers/Toilets | 400 | 800 | N/A | N/A |
| 5a.6e | 1 | Cosmetology/Nail Design Reception | 300 | 300 | N/A | N/A |
| 5a.6f | 1 | Cosmetology/Nail Design Office Suite | 250 | 250 | N/A | N/A |
| 5a.6g | 1 | Cosmetology / Nail Design Laundry | 100 | 100 | N/A | N/A |
| | | SUBTOTAL Health and Human Services | | 25,410 | | 180 |
| | | SUBTOTAL NEW PROGRAMS | | 16,680 | | |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| | | | | | | |
| | | | | | | |
| 5b | | HOSPITALITY/TOURISM | | | | |
| 5b.1a | 1 | Culinary Arts Laboratory (Kitchen) | 1150 | 1150 | 20 | 20 |
| 5b.1b | 2 | Walk-In Freezer/Refrigerator | 150 | 300 | N/A | N/A |
| 5b.1c | 1 | Dry Food Storage | 300 | 300 | N/A | N/A |
| 5b.1d | 1 | Culinary Arts Office | 120 | 120 | N/A | N/A |
| 5b.1e | 1 | Kitchen Custodial | 50 | 50 | N/A | N/A |
| 5b.1f | 1 | Electrical Room | 50 | 50 | N/A | N/A |
| 5b.1g | 1 | Laundry Room | 100 | 100 | N/A | N/A |
| 5b.1h | 2 | Lockers/Toilets | 300 | 300 | N/A | N/A |
| 5b.1i | 1 | Culinary Arts Classroom | 900 | 900 | 20 | N/A |
| 5b.1j | 1 | Culinary Arts Dining Area (Restaurant)<br>*****NEW FACILITY FOR PROGRAM**** | 1150 | 1150 | N/A | N/A |
| 5b.1k | 2 | Restaurant Rest Rooms | 80 | 160 | N/A | N/A |
| 5b.2 | 1 | Hospitality and Service Classroom<br>***********NEW PROGRAM**************** | 750 | 750 | 20 | 20 |
| | | SUBTOTAL HOSPITALITY/TOURISM | | 5,330 | | 40 |
| | | SUBTOTAL NEW PROGRAMS | | 2,510 | | |
| | | | | | | |
| 5c | | INFORMATION TECHNOLOGY | | | | |
| 5c.1a | 2 | CISCO Laboratory/Classroom<br>**********SECOND CLASSROOM FOR CISCO 3-4**************************** | 1150 | 2300 | 20 | 40 |
| 5c.1b | 1 | CISCO Networking Racks/Equipment Trainer | 400 | 400 | N/A | N/A |
| 5c.1c | - | Not Used | - | - | N/A | N/A |
| 5c.1d | 1 | CISCO Storage | 150 | 150 | N/A | N/A |
| 5c.1e | 2 | CISCO Locker/Toilet Rooms | 300 | 600 | N/A | N/A |
| | | | | | | |



| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 5c.2a | 1 | Computer Systems Technology Laboratory/Classroom | 1150 | 1150 | 20 | 20 |
| 5c.2b | 1 | CST Textbook/Software Storage | 150 | 150 | N/A | N/A |
| 5c.2c | 1 | CST Hardware Storage | 300 | 300 | N/A | N/A |
| 5c.2d | 1 | Information Security Lab | 1200 | 1200 | 20 | 20 |
| 5c.3a | 1 | | | | | |
| 5c.4 | 1 | Information Technology Office Suite | 250 | 250 | N/A | N/A |
| | | SUBTOTAL INFORMATION TECHNOLOGY | | 7,750 | | 80 |
| | | | | | | |
| 5d | | ENGINEERING & CONSTRUCTION | | | | |
| 5d.1a | 1 | HVAC & Electrical Lab | 3200 | 3200 | 20 | 20 |
| 5d.1b | 1 | HVAC & Electrical Classroom | 600 | 600 | 20 | N/A |
| 5d.1c | 1 | HVAC & Electrical Tool Room | 150 | 150 | N/A | N/A |
| 5d.1d | 1 | HVAC Electrical(Panelboard) Room | 100 | 100 | N/A | N/A |
| | | | | | | |
| 5d.2a | 1 | Building Construction Lab | 2400 | 2400 | 20 | 20 |
| 5d.2b | 1 | Building Construction Classroom | 800 | 800 | 20 | N/A |
| 5d.2c | 1 | Building Construction Tool Room | 200 | 200 | N/A | N/A |
| 5d.2d | 1 | Finishing Room | 200 | 200 | N/A | N/A |
| 5d.2e | 1 | Paints and Stains Storage | 100 | 100 | N/A | N/A |
| 5d.2f | 1 | Lumber Storage | 300 | 300 | N/A | N/A |
| | | | | | | |
| 5d.3a | 1 | Masonry Lab | 3000 | 3000 | 20 | 20 |
| 5d.3b | 1 | Masonry Classroom | 600 | 600 | 20 | N/A |
| 5d.3c | 1 | Masonry Tool Room | 150 | 150 | N/A | N/A |
| | | | | | | |
| 5d.4a | 1 | Welding Lab/Classroom | 3600 | 3600 | 20 | 20 |
| 5d.4b | 1 | Welding Tool Room | 300 | 300 | N/A | N/A |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 5d.4c | 1 | Welding Clean Storage | 300 | 300 | N/A | N/A |
| 5d.4d | 1 | Welding Electrical Room | 200 | 200 | N/A | N/A |
| | | | | | | |
| 5d.5a | 1 | Computer Integrated Engineering and Design Lab<br>*****CURRENTLY SHARES SPACE WITH COMPUTER ANIMATION****** | 2000 | 2000 | 20 | 20 |
| 5d.5b | 1 | Computer Integrated Engineering and Design Office | 120 | 120 | N/a | N/A |
| 5d.5c | 1 | CEID Hardware Storage | 250 | 250 | N/A | N/A |
| | | | | | | |
| 5d.6a | 2 | HVAC / Welding Lockers/ Toilets/ Showers | 600 | 1200 | | |
| 5d.6b | 1 | Engineering and Construction Office Suite | 250 | 250 | | |
| 5d.6c | 2 | Building Construction / Masonry Lockers/ Toilets/ Showers | 600 | 1200 | | |
| | | | | | | |
| | | SUBTOTAL ENGINEERING & CONSTRUCTION | | 21,770 | | 100 |
| | | | | | | |
| 5e | | TRANSPORTATION | | | | |
| 5e.1a | 1 | Auto Servicing Technology Lab | 7500 | 7500 | 20 | 20 |
| 5.1b | 1 | Auto Servicing Technology Classroom | 1200 | 1200 | 20 | N/A |
| 5e.1c | 1 | AST Parts/Storage | 500 | 500 | N/A | N/A |
| 5e.1d | 1 | AST Storage | 150 | 150 | N/A | N/A |
| 5e.1e | 1 | AST Tool Storage | 150 | 150 | N/A | N/A |
| 5e.1f | 1 | AST Shop Manual Library | 150 | 150 | N/A | N/A |
| | | | | | | |
| 5e.2a | 1 | Collision Repair Technology Lab | 7500 | 7500 | 20 | 20 |
| 5e.2b | 1 | Collision Repair Technology Classroom | 600 | 600 | 20 | N/A |
| 5e.2c | 1 | CRT Reference Room/Teaching Aids | 150 | 150 | N/A | N/A |



| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 5e.2d | 1 | Equipment Storage/Accudraft Mix Room | 500 | 500 | N/A | N/A |
| 5e.2e | 1 | CRT Paint Storage | 300 | 300 | N/A | N/A |
| 5e.2f | 1 | Detailing and Wash Bay/Detailing Materials Storage | 900 | 900 | N/A | N/A |
| 5e.2g | 1 | Collision Repair Tool Storage | 150 | 150 | N/A | N/A |
| | | | | | | |
| 5e.3a | 1 | AST/Collision Repair Technology Instructors Office | 400 | 400 | N/A | N/A |
| 5e.3b | 4 | Transportation Program Shared Lkr./Shr./Tlt. | 600 | 2,400 | N/A | N/A |
| | | SUBTOTAL TRANSPORTATION | | 22,700 | | 40 |
| | | | | | | |
| 5f | | COMMUNICATIONS | | | | |
| 5f.1a | 1 | Graphic Communications/Production Lab | 2700 | 2700 | 20 | N/A |
| 5f.1b | 1 | Production Printing Office | 400 | 400 | N/A | N/A |
| 5f.1c | 1 | Loading Area | 800 | 800 | N/A | N/A |
| 5f.1c.1 | 1 | Paper Storage | 600 | 600 | N/A | N/A |
| 5f.1d | 1 | Materials Storage | 200 | 200 | N/A | N/A |
| 5f.1e | 1 | Graphic Communications Lab/Classroom | 1150 | 1150 | 20 | 20 |
| 5f.1f | 1 | Graphic Communications Program Storage | 500 | 500 | N/A | N/A |
| 5f.1g | 1 | Graphic Communications Ink/Supply Storage | 600 | 600 | N/A | N/A |
| 5f.1h | 1 | Graphic Communications Plate Room | 200 | 200 | N/A | N/A |
| 5f.1i | 1 | Graphic Communications Instructor Office | 250 | 200 | N/A | N/A |
| | | | | | | |
| 5f.2a | 1 | Television Production Studio/Classroom<br>****EXPANDED FACILITY AS LCPS AND COMMUNITY ASSET*********** | 2600 | 2600 | 20 | 20 |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 5f.2b | 1 | Television Production Control/Editing Room<br>***ENLARGED TO ACCOMMODATE FULL CLASS**********| 900 | 900 | 20 | N/A |
| 5f.2c | 1 | Television Production Set Storage | 600 | 600 | N/A | N/A |
| 5f.2d | 1 | Television Production Video Equipment Storage | 300 | 300 | N/A | N/A |
| 5f.2e | 2 | Audio Rooms | 100 | 200 | N/A | N/A |
| 5f.2f | 1 | Television Production Classroom | 600 | 600 | N/A | N/A |
| | | | | | | |
| 5f.3a | 1 | Computer Digital and Animation Laboratory<br>**********SPLIT FROM CEID********** | 1500 | 1500 | 20 | 20 |
| 5f.3b | 1 | Storage | 500 | 500 | N/A | N/A |
| 5f.4 | 1 | Communications Office Suite | 300 | 300 | | |
| | | SUBTOTAL COMMUNICATIONS | | 14,700 | | 60 |
| | | | | | | |
| 5g | | ENVIRONMENTAL SCIENCES & TECHNOLOGY | | | | |
| 5g.1a | 1 | Retail Greenhouse<br>*********ADDED TO PROGRAM TO ENHANCE BUSINESS EXPERIENCE********** | 18,750 | 18,750 | N/A | N/A |
| 5g.1b | 2 | Production Greenhouses | 3,750 | 7500 | N/A | N/A |
| 5g.1c | 1 | Holding/Stock Plant Greenhouse | 1500 | 1500 | N/A | N/A |
| 5g.1d | 1 | Environmental Program Classrooms | 600 | 600 | 20 | 40 |
| 5g.1e | 1 | Environmental Program Office Suite | 240 | 240 | N/A | N/A |
| 5g.1f | 1 | Floral Production Lab | 1200 | 1200 | 20 | N/A |
| 5g.1g | 1 | Floral Production Storage | 225 | 225 | N/A | N/A |
| 5g.1h | 1 | Floral Production Walk-In Cooler | 500 | 500 | N/A | N/A |
| 5g.1i | 1 | Potting Area | 2500 | 2500 | N/A | N/A |
| 5g.1j | 1 | Potting Area Storage | 900 | 900 | N/A | N/A |



| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 5g.1k | 1 | Pesticide Storage | 400 | 400 | N/A | N/A |
| 5g.1l | 1 | Lath Area | - | - | N/A | N/A |
| 5gl.1m | 1 | Outdoor Retail Nursery Area | 2400 | - | N/A | N/A |
| 5g.1n | 1 | Heavy Equipment Garage Storage<br>**NEW PROGRAM REQUIREMENT* | 2400 | 2400 | N/A | N/A |
| 5g.1m | 1 | Small Engines Repair & Maintenance/Turf Lab | 2300 | 2300 | 20 | N/A |
| 5g,1n | 1 | Small Engines Classroom | 800 | 800 | 20 | 20 |
| 5g.1o | 1 | Small Engines Storage | 150 | 150 | N/A | N/A |
| 5g.1p | 1 | Small Engines Tool Room | 150 | 150 | N/A | N/A |
| 5g.1q | 2 | Environmental Program Lockers/Toilets/Showers | 600 | 1200 | N/A | N/A |
| | | SUBTOTAL ENVIRONMENTAL SCIENCES & TECHNOLOGY | | 41,025 | | 60 |
| | | | | | | |
| 6a | | ADMINISTRATION | | | | |
| 6a.1a | 1 | General Office/Waiting | 800 | 800 | | |
| 6a.1b | 1 | Principal's Office | 300 | 300 | | |
| 6a.1c | 2 | Asst. Principal's Office | 300 | 600 | | |
| 6a.1d | 1 | Records Vault | 150 | 150 | | |
| 6a.1e | 1 | Attendance | 80 | 80 | | |
| 6a.1f | 1 | Paper Storage | 100 | 100 | | |
| 6a.1g | 1 | Admin. Storage | 200 | 200 | | |
| 6a.1h | 1 | Bookkeeper Office | 120 | 120 | | |
| 6a.1i | 1 | Vault | 80 | 80 | | |
| | | | | | | |
| 6a.2a | 1 | Clinic Waiting | 50 | 50 | | |
| 6a.2b | 1 | Clinic Examination | 200 | 200 | | |
| 6a.2c | 2 | Clinic Toilets | 65 | 130 | | |
| 6a.2d | 2 | Clinic Rest Areas | 120 | 120 | | |
| | | | | | | |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 6a.3a | 1 | Conference/Coffee Room | 250 | 250 | | |
| | | | | | | |
| 6a.4a | 1 | Guidance Waiting | 100 | 100 | | |
| 6a.4b | 2 | Counselor Office | 120 | 240 | | |
| 6a.4c | 2 | Flex. Office | 120 | 240 | | |
| 6a.4d | 1 | Conference/Coffee Room | 250 | 250 | | |
| 6a.4c | 1 | Special Ed/ESL Office | 320 | 320 | | |
| 6a.4d | 1 | Coordinator Office | 300 | 300 | | |
| | | | | | | |
| 6a.5a | 1 | Mail/Copy/Faculty Work Room | 400 | 400 | | |
| 6a.5b | 2 | Faculty Toilets | 65 | 130 | | |
| 6a.5c | 1 | Faculty Break Room | 200 | 200 | | |
| | | | | | | |
| 6a.6a | 2 | Security Specialists | 100 | 200 | | |
| 6a.6b | 1 | Data/Comm Head End | 80 | 80 | | |
| 6a.6c | 1 | IT Tech and Servers | 100 | 100 | | |
| | | SUBTOTAL ADMINISTRATION | | 5,860 | | |
| | | | | | | |
| 6b | | CUSTODIAL | | | | |
| 6b.1a | 1 | Custodial Office | 200 | 200 | | |
| 6b.1b | 1 | Custodial Toilet/Shower | 80 | 80 | | |
| 6b.1c | 1 | Custodial Supplies Storage | 250 | 250 | | |
| 6b.1d | 6 | Janitors' Closets | 40 | 240 | | |
| | | SUBTOTAL CUSTODIAL | | 770 | | |
| | | | | | | |
| 6c | | MULTIPURPOSE/COMMONS/FOOD SERVICE | | | | |
| 6c.1 | 1 | Multipurpose Room | 6000 | 6000 | | |



| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET | | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| | | | UNIT | TOTAL | | |
| 6c.2 | 1 | Furniture Storage | 750 | 750 | | |
| 6c.3 | 1 | Kitchen/Food Preparation | 3000 | 3000 | | |
| 6c.4 | 1 | School Store | 300 | 300 | | |
| | | SUBTOTAL MULTIPURPOSE/COMMONS/FOOD SERVICE | | 10,050 | | |
| | | | | | | |
| | | | | | | |
| 6d | | VOCATIONAL ASSESSMENT | | | | |
| 6d.1a | 1 | Phase ! Assessment | 600 | 600 | | |
| 6d.1b | 1 | Phase 2 Assessment | 2480 | 2480 | | |
| 6d.1c | 1 | Vocational Assessment Office | 240 | 240 | | |
| 6d.1d | 1 | Vocational Assessment Storage | 150 | 300 | | |
| 6d.1e | 1 | Handicap Toilet | 80 | 80 | | |
| 6d.1f | 1 | Instructor Toilet | 50 | 50 | | |
| | | SUBTOTAL VOCATIONAL ASSESSMENT | | 3,600 | | |
| | | | | | | |
| 6e | | TEXTBOOK STORAGE | | | | |
| 6e.1 | | Textbook Storage/Copier | 300 | 300 | | |
| | | SUBTOTAL | | 300 | | |
| | | | | | | |
| 6f | | STUDENT STORAGE | | | | |
| 6f.2 | 1 | Adult ed Storage/Copier | 300 | 300 | | |
| 6f.3 | 1 | Student Lockers (800) | 1000 | 1000 | | |
| | | SUBTOTAL | | 1300 | | |
| | | | | | | |
| 6g | | PUBLIC USE | | | | |
| 6g.1a | 3 | Public Toilets Women | 400 | 1200 | | |
| 6g.1b | 3 | Public Toilets Men | 400 | 1200 | | |

| DESIGN CODE | NO. SPACES | DESCRIPTION | NET SQ. FEET UNIT | NET SQ. FEET TOTAL | DESIGN CAPACITY PER UNIT | TOTAL STATIONS UTILIZED |
|---|---|---|---|---|---|---|
| 6g.1c | 2 | Vending/Lounge | 400 | 800 | | |
| | | SUBTOTAL PUBLIC USE | | 3200 | | |
| | | | | | | |
| 6h | | CAREER RESOURCE/LIBRARY/MEDIA CENTER | | | | |
| 6h.1a | 1 | Career Resource Center | 250 | 250 | | |
| 6h.1b | 1 | Library | 800 | 800 | | |
| 6h.1c | 1 | AV Storage | 200 | 200 | | |
| 6h.1d | 1 | Library Office/Work Room | 200 | 200 | | |
| | | SUBTOTAL CAREER RESOURCE/LIBRARY | | 2,900 | | |
| | | SUBTOTAL NEW PROGRAMS | | 1,450 | | |
| | | | | | | |
| 7b | | MECHANICAL ROOM | | | | |
| 7b.1 | 1 | Mechanical room | 3000 | 3000 | | |
| | | SUBTOTAL | | 3000 | | |
| | | | | | | |
| 7c | | ELECTRICAL ROOM | | | | |
| 7c.1 | 1 | Electrical Switchgear | 1000 | 1000 | | |
| | 4 | Electrical Rooms | 50 | 200 | | |
| | | | | 1200 | | |
| 7d | | TELEPHONE/DATA EQUIPMENT ROOMS | | | | |
| 7d.1 | 1 | Telephone Equipment | 300 | 300 | | |
| 7d.2 | 8 | Data Closets | 150 | 1200 | | |
| | | SUBTOTAL | | 1500 | | |
| | | | | | | |
| | | | | | | |
| | | TOTAL NET S.F. | | 176,515 | | |



| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | |
| | * | Add 23 % for circulation, wall thickness and other allowable factors. | | 40,598 | | |
| | | | | | | |
| | | TOTAL GROSS S.F. | | 217,113 | | |

- **Net to Gross Factors:**

| | |
|---|---|
| Perimeter Wall: | 5,000 sf |
| Divising Walls: | 4,000 sf |
| Primary Circulation: | 24,000 sf |
| Stairs (4): | 1,600 sf |
| Elevator: | 200 sf |
| Secondary Circulation: | 1,000 sf |

**END OF FACILITY LIST - EDUCATION SPECIFICATION NO. 3**

# ACKNOWLEDGEMENTS


**Loudoun County Public Schools**

| | |
|---|---|
| Dr. Edgar Hatrick | Superintendent of Schools |
| Mrs. Sharon Ackerman | Assistant Superintendent |
| Mr. Evan Mohler | Assistant Superintendent |
| Mrs. Shirley Bazdar | Director of Career and Technical and Adult Education |
| Ms. Cara Legrys | Supervisor of Career and Technical Education |
| Mr. Wagner Grier | Principal Monroe CTC |
| Mr. Ron Stocking | Assistant Principal Monroe CTC |
| Mr. Kevin Lewis | Director of Construction |
| Mr. Greg Miller | Program Manager Design and Construction |
| Mr. Ken Miller | HVAC Manager Design and Construction |

**Hayes Large Architects**

| | |
|---|---|
| Mr. Robert E. Wedge AIA | Partner |
| Mr. G. Randolph Hudson AIA, LEED | Partner |
| Mr. Michael A. Zanin AIA | Project Manager |
| Ms. Marti Mitchell AIA, LEED | Designer |
| Mr. Phil Madden | Designer |
| Mrs. Jessica Bessette | Designer |
| Mrs. Rebecca Bradford | Designer |
| Ms. Coey Stern | Graphic Designer |
| Mr. Michael Federici RA | Specifications |
| Mr. Jeff Hartzell | Codes |
| Mr. Matt Glaspey | Landscape Architect |
| Ms. Rachel Prinkey, PE, LEED | Engineer |

**B2E MEP Engineering**

| | |
|---|---|
| Mr. Bruce Beddow PE | Mechanical Engineer |
| Mr. Nick Santore PE | Electrical Engineer |
| Mr. Bryan Turnan, CPD | |

**Timmons Group**

| | |
|---|---|
| Mr. Bill Vest PE | Civil Engineer |
| Mr. Tim Doody PE | Civil Engineer |

**Atlantic Engineering Services**

| | |
|---|---|
| Mr. Bob Bertocchi PE | Structural Engineer |